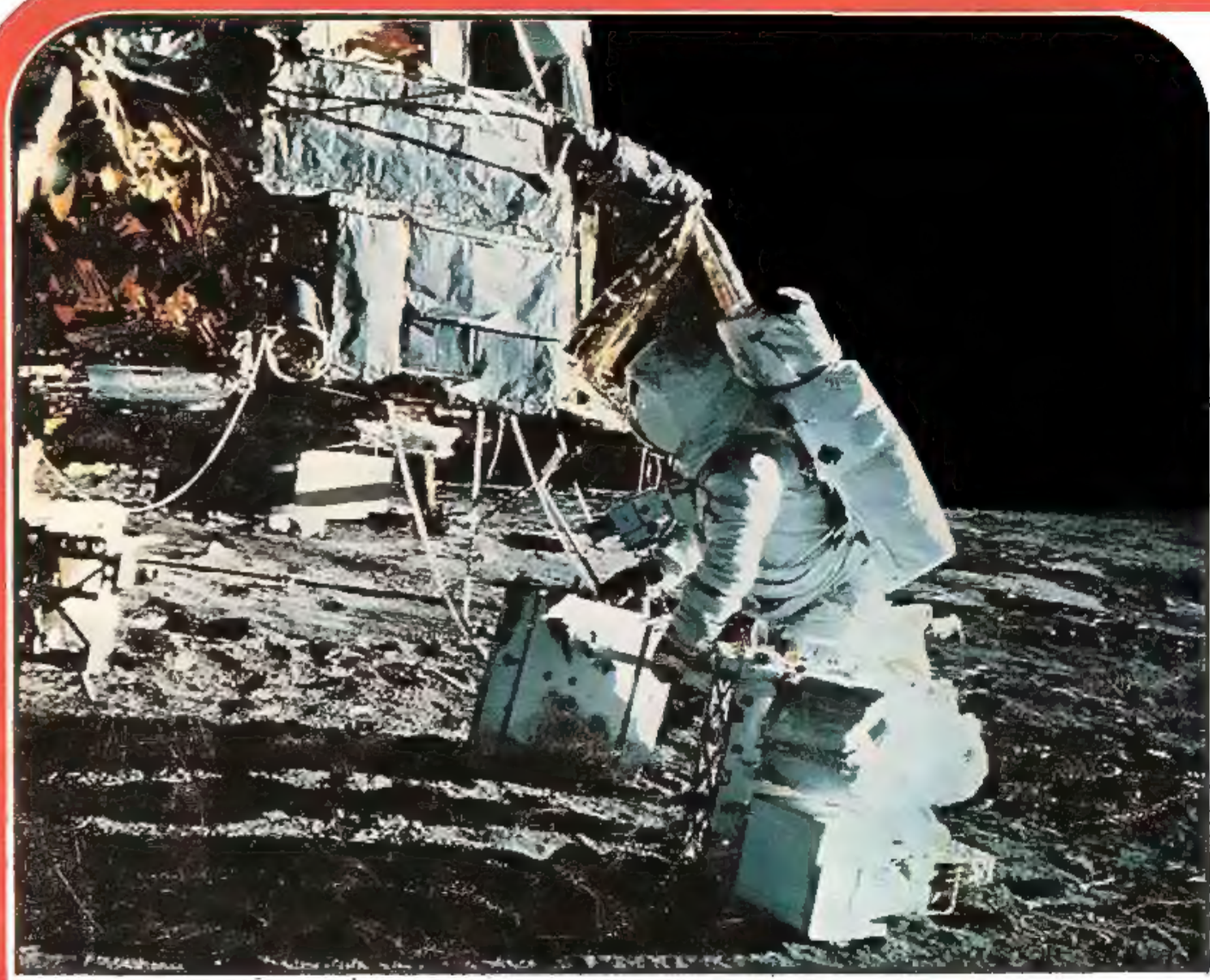
countdown

WEEK ENDING
MARCH 13, 1971
No. 4
FIVE PENCE



Dr. WHO

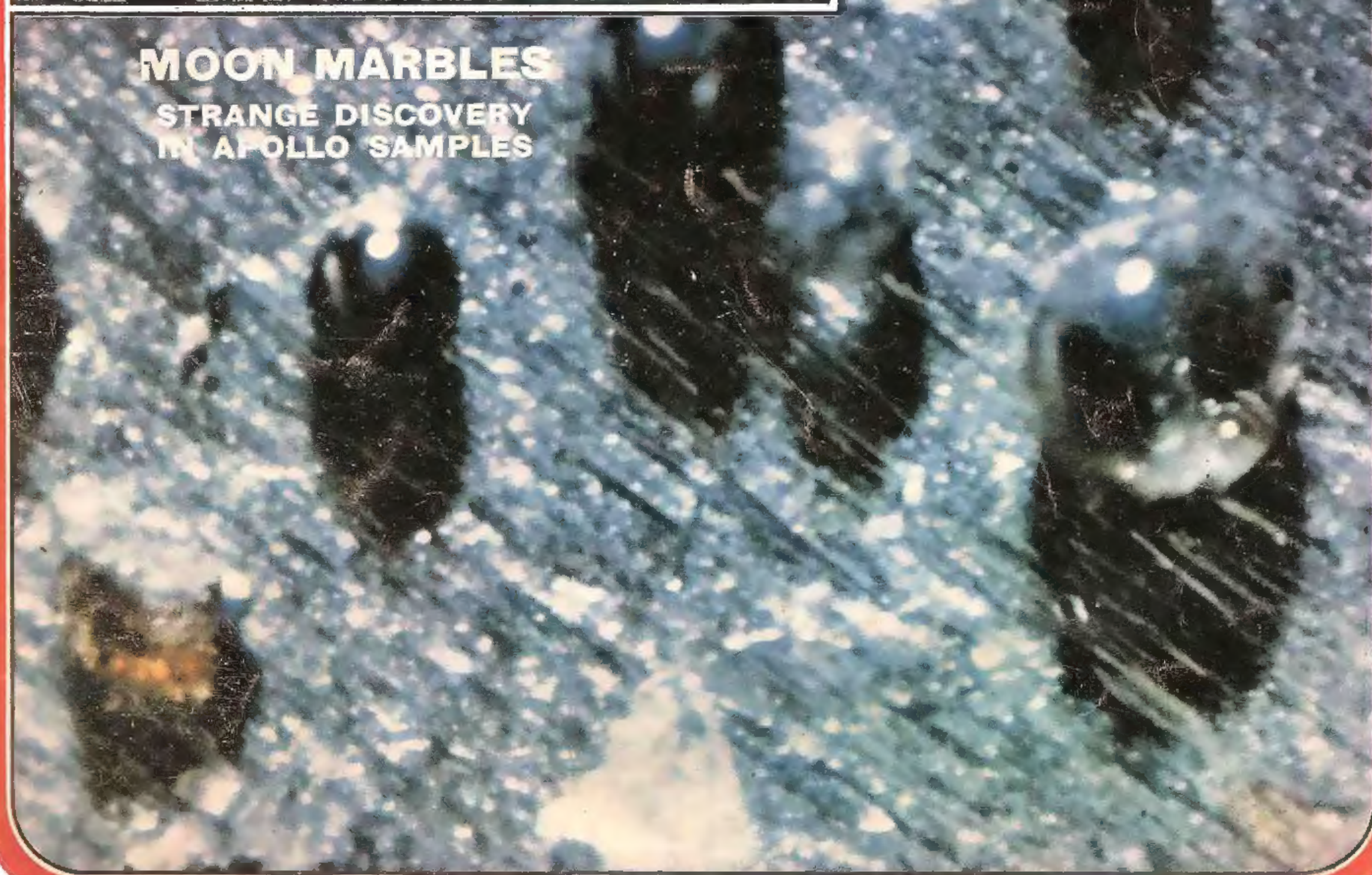
attempts to avert a space disaster

Things Hot-up for Shado

UFO

SPACE STAMPS

4 Free!



MOON MARBLES

STRANGE DISCOVERY IN APOLLO SAMPLES

March 13, 1971
Issue 4

countdown

Polystyle Publications
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Coming next week in Countdown:

a feature on special effects in films. The full story on how the Gerry Anderson team creates realistic models for series like Thunderbirds and UFO.

Moonbase Interceptors from Gerry Anderson's series UFO

● On the Cover

Over 5 per cent of the moon's surface is composed of these glassy "marbles" or spherules. The ones on the cover come from the Apollo 11 landing site in the Sea of Tranquillity.

The spherules vary in colour from colourless through grey-green, green, brown and wine red. The largest is half a millimetre across—too small for a game of lunar marbles. They are made by the impact of meteorites on the moon.

For more discoveries in the Apollo soil samples, see the story on page 4.

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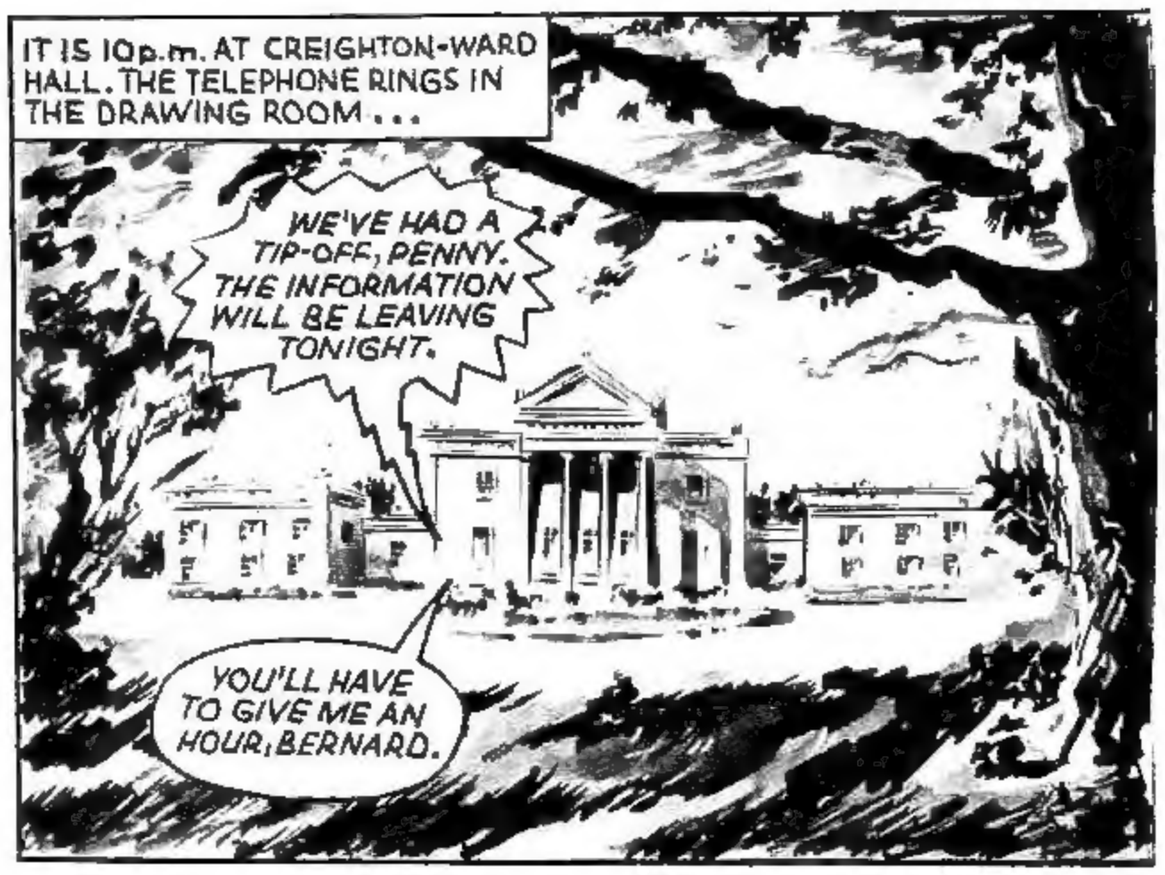
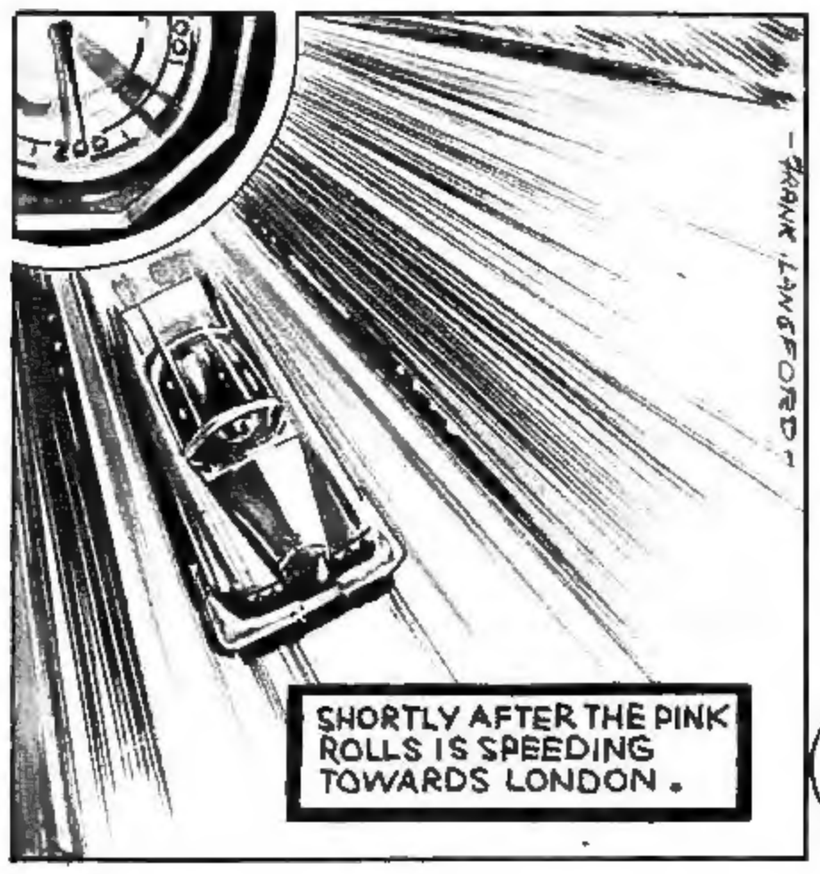
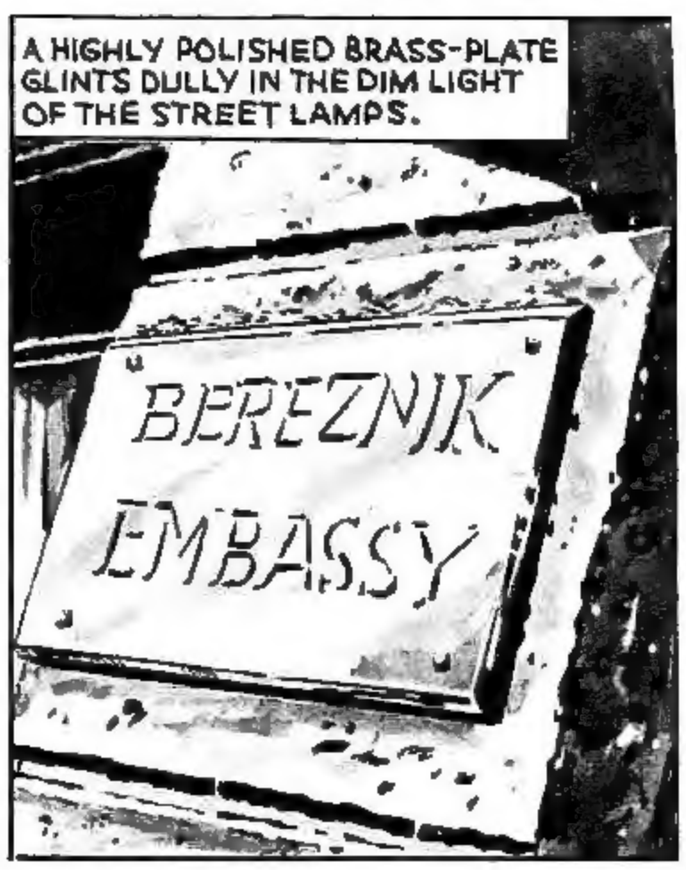
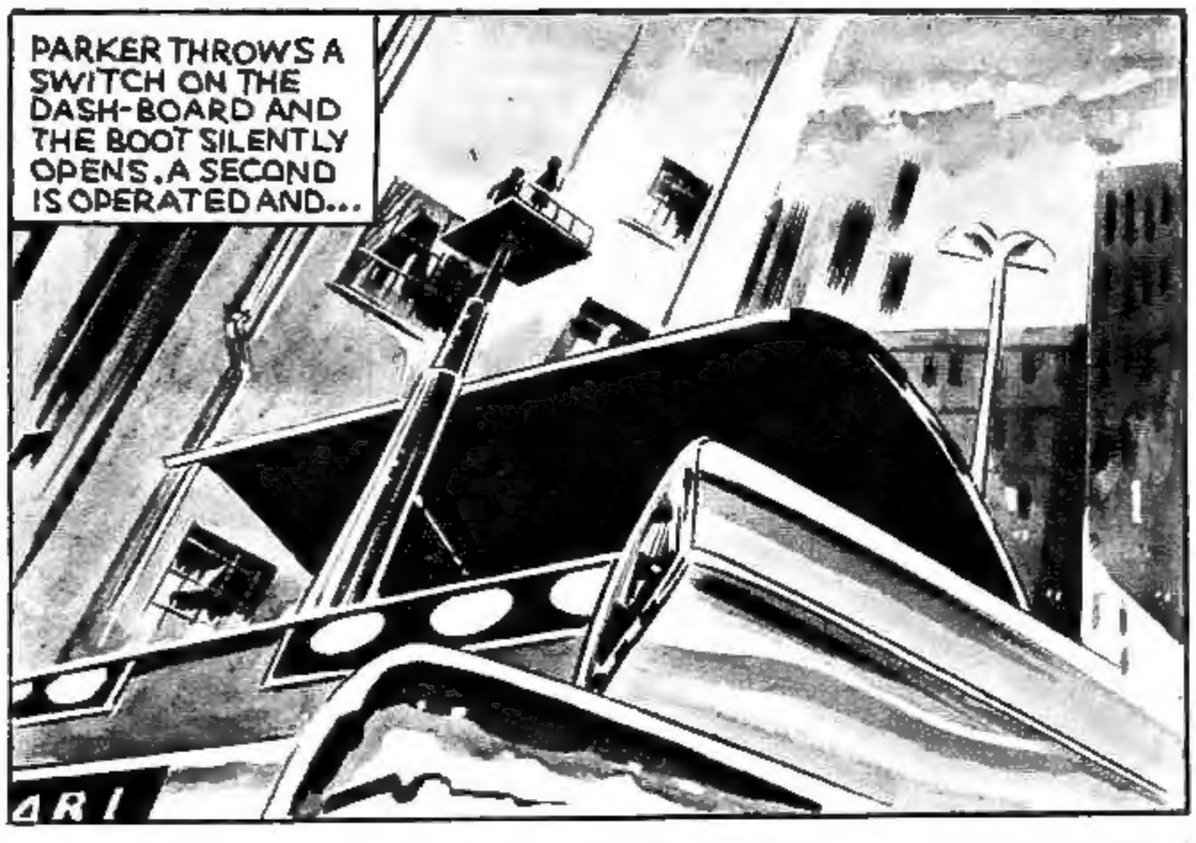


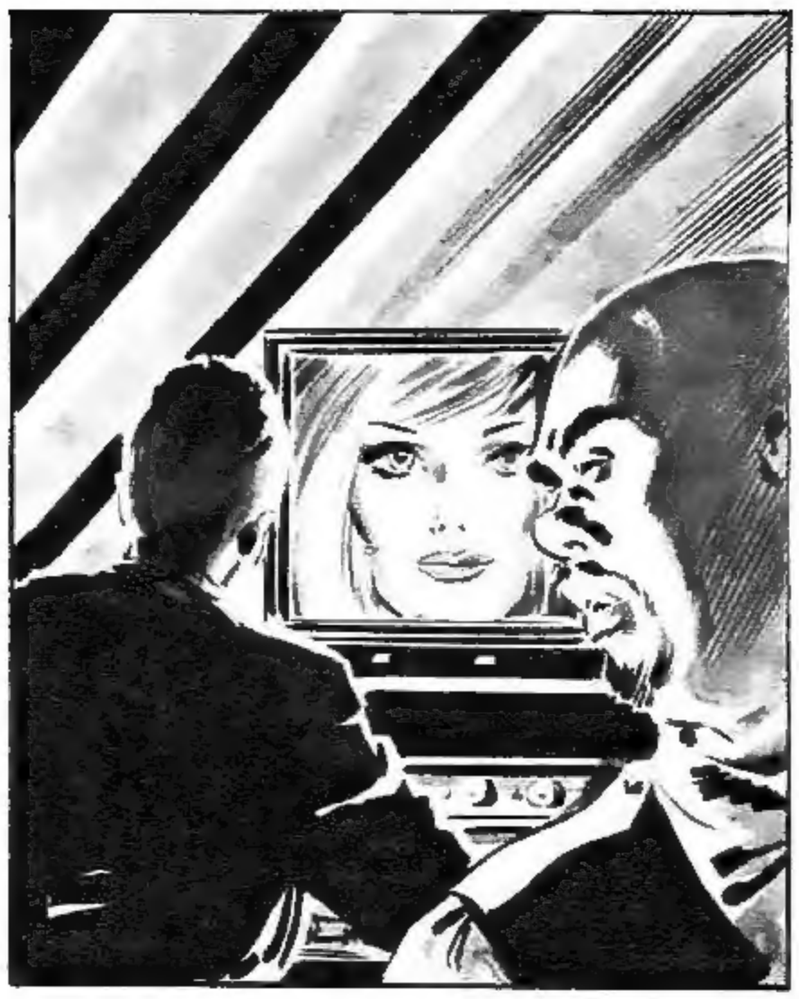






ART: FRANK LANGFORD © 1971 Century 21 M. Ltd.

HER LADYSHIP'S DESCRIPTION IS NOT FAR FROM THE TRUTH...IN A BASEMENT ROOM...
WE HAVE VISITORS, COLONEL.
WAKE THE AMBASSADOR. IT LOOKS LIKE MY NEW SECURITY GADGET IS PAYING DIVIDENDS.



IGNORANT OF THE MISTAKE SHE HAS MADE PENELOPE REPLACES THE FISH-EYE BACK ON THE DESK.
WELL DONE, PARKER.

QUICKLY SHE PHOTOGRAPHS THE CONTENTS OF THE SAFE. THE LAST PAPER HAS JUST BEEN RETURNED WHEN...
STAY WHERE YOU ARE AND DO NOT MOVE.
S'TRUTH WE'VE BEEN NOBBLED.

IF I MIGHT HAZARD A GUESS — TWO OF THEIR TOP AGENTS. EXCELLENT, COLONEL.

IF YOU'LL ACCOMPANY US DOWNSTAIRS WE'LL PREPARE YOU FOR YOUR JOURNEY, COMRADE.
IF I'M GOING TO TRAVEL I'D BETTER REPAIR MY FACE.

YOU MIGHT AS WELL HAND OVER THE CAMERA.

YOU WON'T NEED PAINT AND POWDER WHERE YOU'RE GOING, COMRADE.
OH DEAR... HOW SINISTER YOU MAKE IT SOUND.

FEIGNING ALARM LADY P. LETS THE LIPSTICK FALL FROM HER FINGERS...
OH, HOW CARELESS...

BUT THEN...

PARKER IS READY FOR THE OLD TRICK AND QUICKLY HOLDS HIS BREATH...
STOP THEM...UH!

NOT LONG AFTER, STILL IN THE EARLY HOURS OF THE MORNING — A SINGLE LIGHT GLOWS IN A WHITEHALL OFFICE.
VERY NEARLY DISASTER, BERNARD.
I'M AFRAID IT'S WORSE THAN YOU THINK, PENNY.

WELL, IF THE BLACK RAY TRANSMITTER DIDN'T WORK THEY MUST HAVE TAKEN PICTURES OF YOU FROM EVERY ANGLE.
SIR BERNARD MEANS OUR COVER'S BLOWN, M'LADY.

EXACTLY, PARKER. YOU'LL BE SO WELL KNOWN TO THEM... I'M AFRAID YOU DON'T REALLY HAVE MUCH ALTERNATIVE BUT TO RESIGN.
HOW TIRESOME.
COR, WHAT A DRAG.

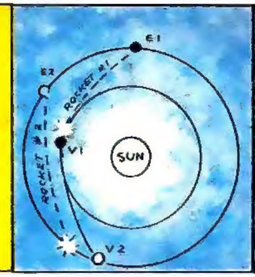
NEXT MORNING AT BREAKFAST LADY P. EATS HER TOAST THOUGHTFULLY...
THERE MUST BE SOMETHING WE CAN DO, M'LADY.
I THINK THERE IS, PARKER. I THINK THERE IS...GET THE ROLLS READY WHILE I MAKE A FEW TELEPHONE CALLS.

AND SO...
YOU WANT TO BE A COMMITTEE MEMBER OF THE ANGLO-BEREZNIK CULTURAL SOCIETY. WELL I'LL SEE WHAT I CAN DO.
YOU SAY IT COULD BE DANGEROUS, PENNY. AS MY FAVOURITE COUSIN HOW CAN I REFUSE YOU. OF COURSE JEREMY WILL HELP.
WELL, I'M BUSY ON A NEW FILM, BUT O.K. I'LL MANAGE SOMEHOW.

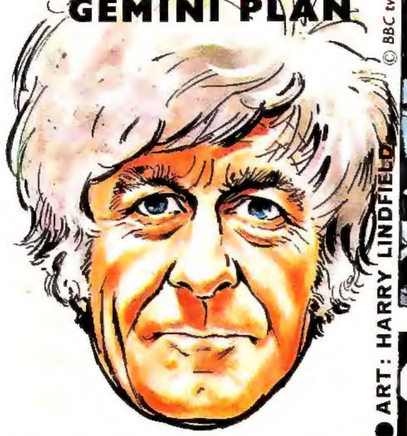
THREE HOURS LATER FAB 1 IS ONCE AGAIN IN LONDON. ONCE MORE PARKED OUTSIDE THE BEREZNIK EMBASSY.
WISH ME LUCK, PARKER. OUR FUTURE CAREERS DEPEND ON IT!
WITH ALL DUE RESPECT, I HOPE YOUR LADYSHIP KNOWS WHAT SHE'S DOING.

AND SO...
I HAVE AN APPOINTMENT WITH THE AMBASSADOR. LADY PENELOPE CREIGHTON-WARD.
BEREZNIK EMBASSY
THIS WAY, IF YOU PLEASE.
LADY PENELOPE FINDS HERSELF AGAIN IN THE AMBASSADOR'S OFFICE...

Dr. Who has accidentally crashed the Tardis inside the defences of a top secret complex. Mystified as to why such an establishment has been built in the Australian desert, the Doctor escapes his captors with the aid of Murray Lever who is also hunted by the project controller Rudolph Steiner. Through Murray, Dr. Who learns the secrets of Project Gemini—a plan to use two fusion explosions to push Venus into Earth's orbit. Aghast at the magnitude of Steiner's madness, Dr. Who and Murray think desperately of some way to destroy the evil plan.



DR. WHO
GEMINI PLAN



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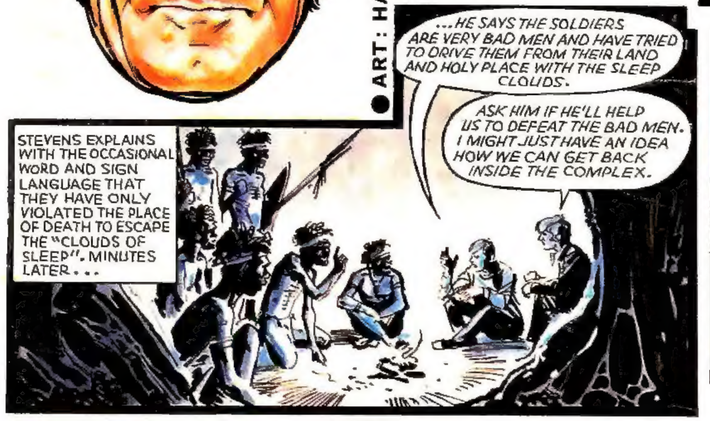
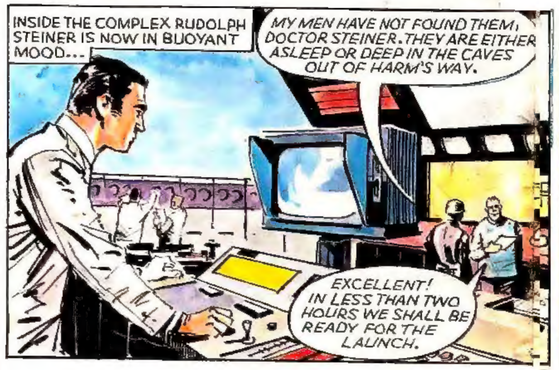
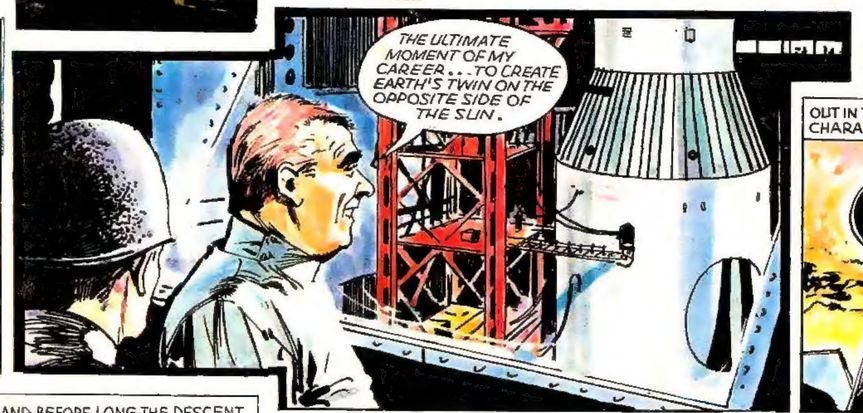
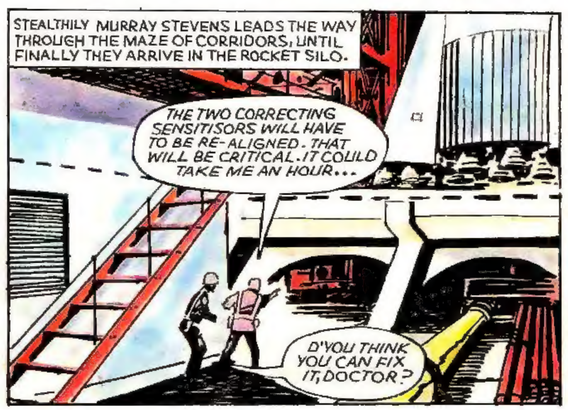
ART: HARRY LINDFIELD



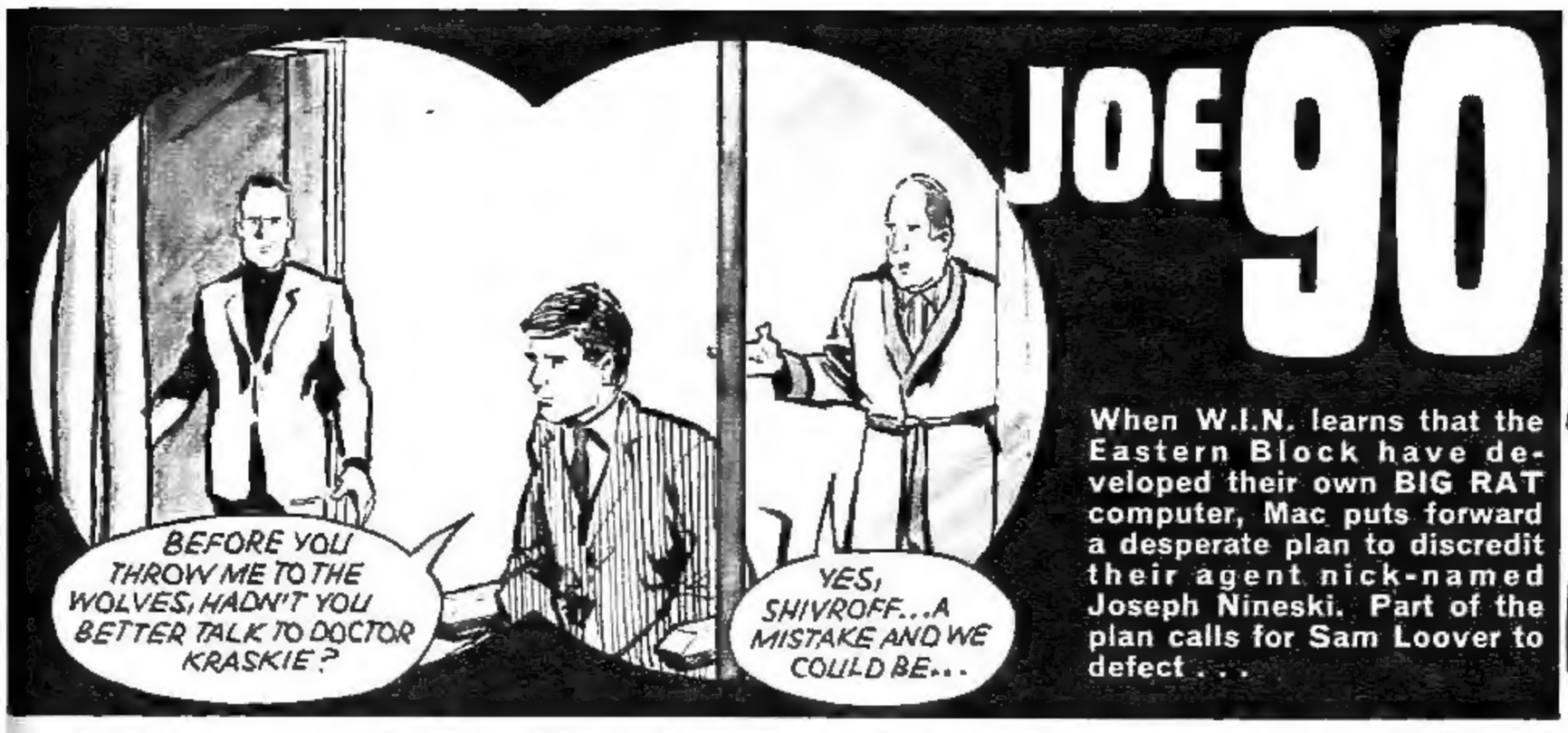


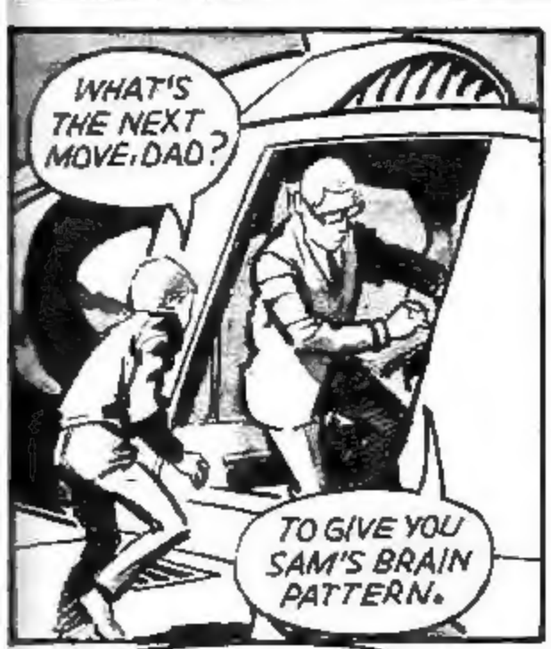


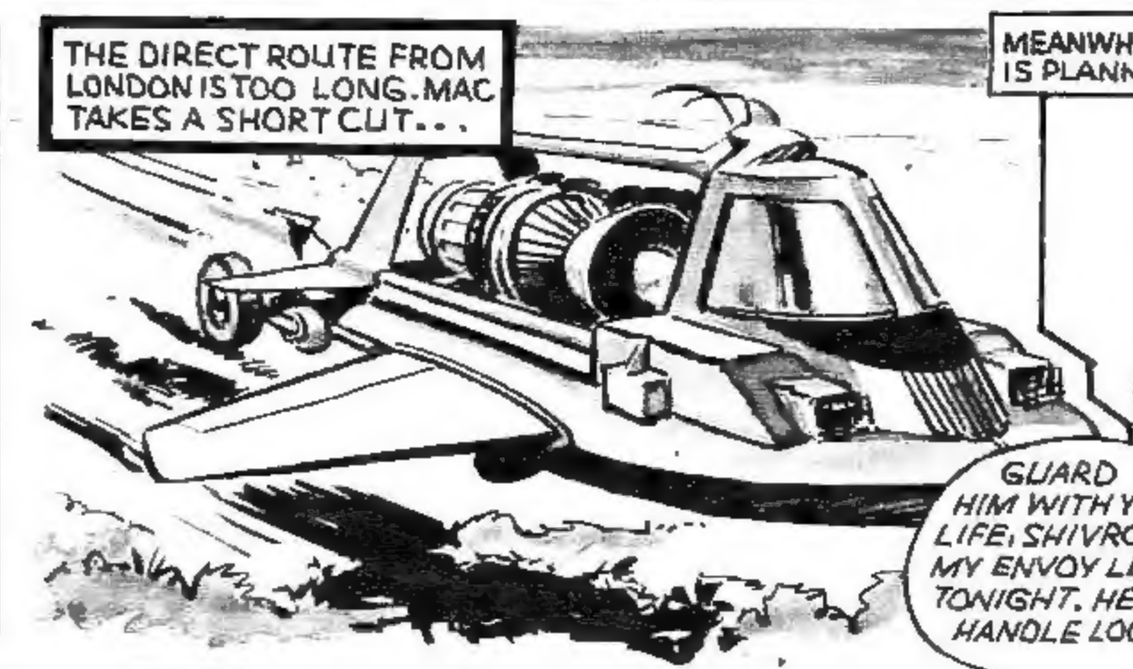


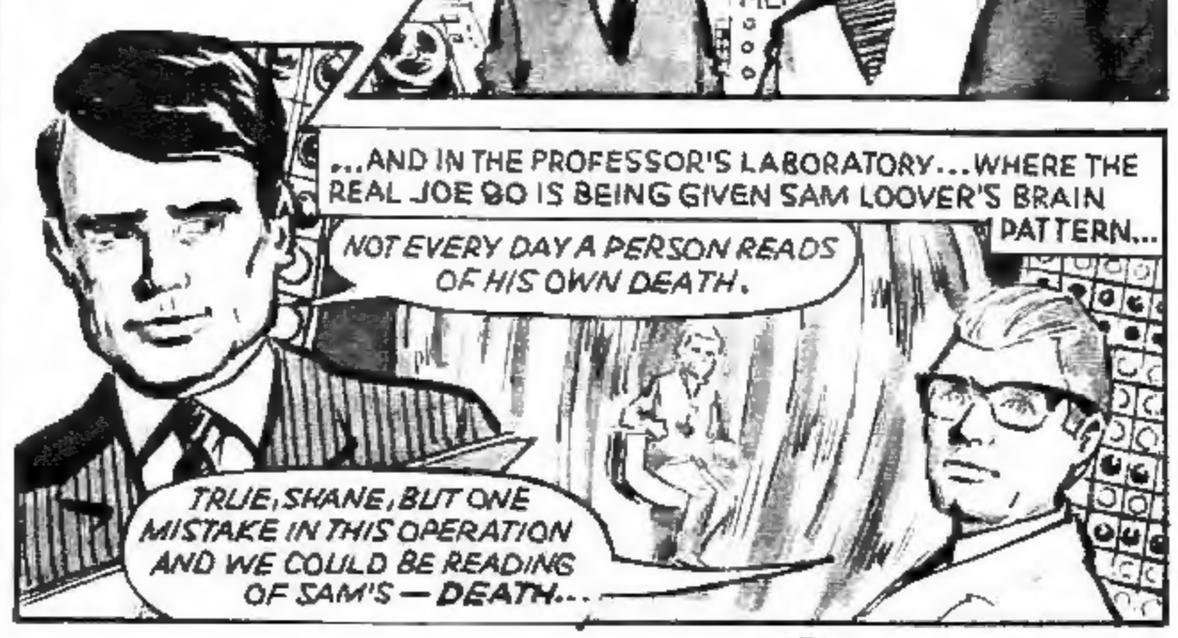
JOE 90

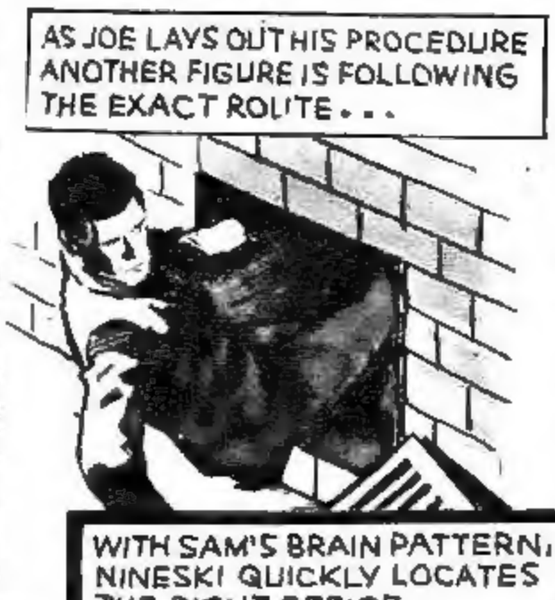
When W.I.N. learns that the Eastern Block have developed their own BIG RAT computer, Mac puts forward a desperate plan to discredit their agent nick-named Joseph Nineski. Part of the plan calls for Sam Loover to defect . . .











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ART: JON DAVIS

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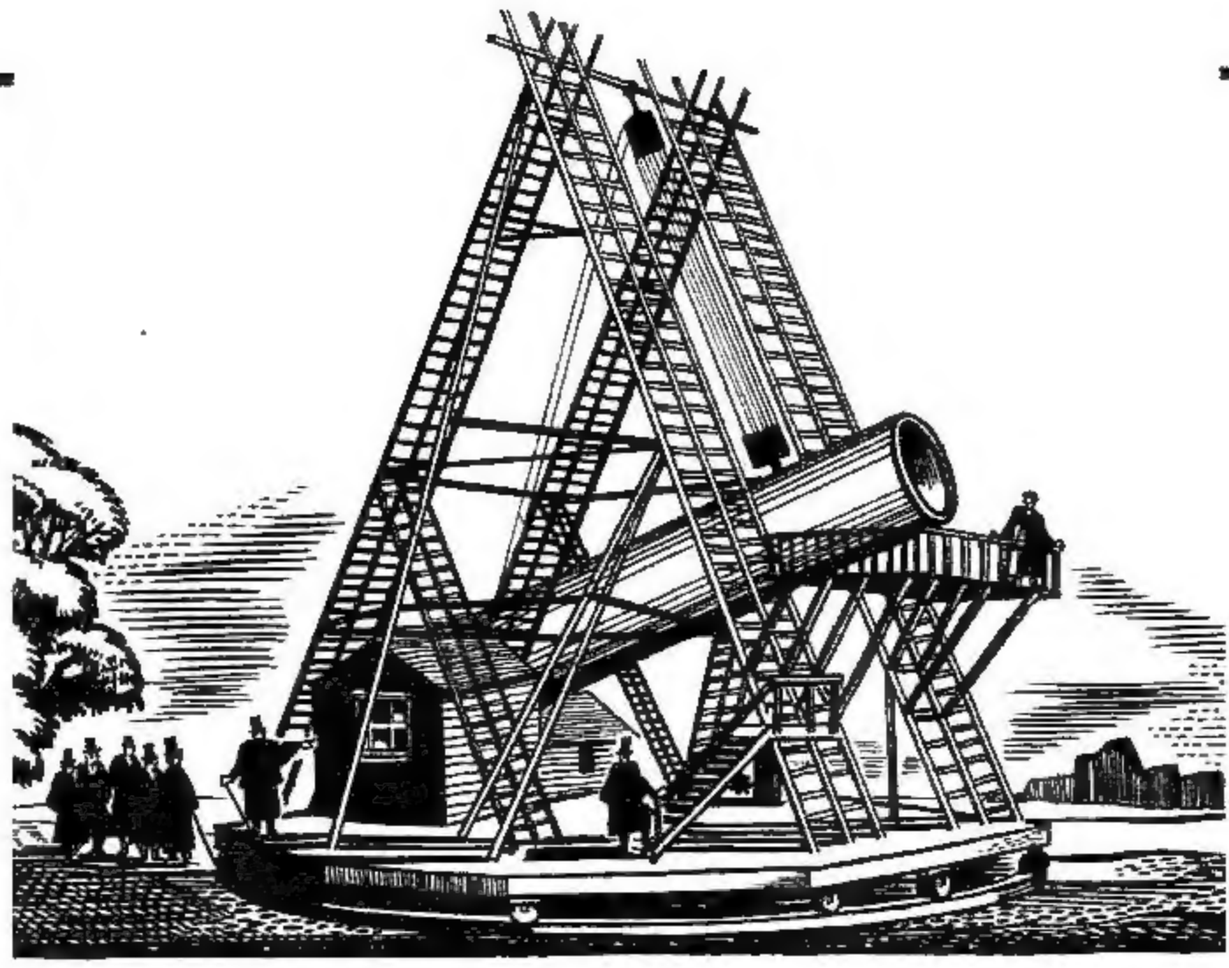
● by Tom Sheridan



Left: This 48-inch reflector, erected at Slough in 1789 by Sir William Herschel—father of Sir John Herschel—was the largest telescope in the world for 56 years. He was the best telescope-maker of his time and discovered the planet Uranus in 1781. The largest telescope in the world is now at Zelenchuk, U.S.S.R. The 236-inch mirror was finished in 1967.

Right: Edgar Allan Poe claimed that he was not hoodwinked by "The Sun's" fantasy. But it was more believable than the story he was writing, about a Dutchman who went to the Moon in a balloon.

The 1835 Moon Hoax

An artist's impression of the "moon-men". Illustrated booklets on "The Lunar Hoax" continued to sell by the thousands long after it was exposed.

COULD we build a telescope powerful enough to see trees and flowers on the Moon? Are there animals, even men, living there?

Today we know the answer to these questions must be "No." Yet, over a century ago, people who would have scoffed at the idea of human footprints on the Moon were ready to believe that a famous astronomer had actually watched winged Lunarians flying about their colourful world.

In August 1835, thousands of New Yorkers queued up daily for copies of *The Sun*, eager to follow the fascinating story supposed to have been adapted from a scientific journal printed in Edinburgh. It told how Sir John Herschel had observed the bizarre lunar landscape through a telescope "of vast dimensions and entirely new principle", erected on Table Mountain at the Cape of Good Hope.

The account was so cleverly written that few readers spotted the technical errors. They accepted that his "prodigious lens", 24 feet across and weighing seven tons, had enabled Herschel to spy strange animals like small bison browsing on the Moon's grassy slopes—and one with a single horn sprouting from its head!

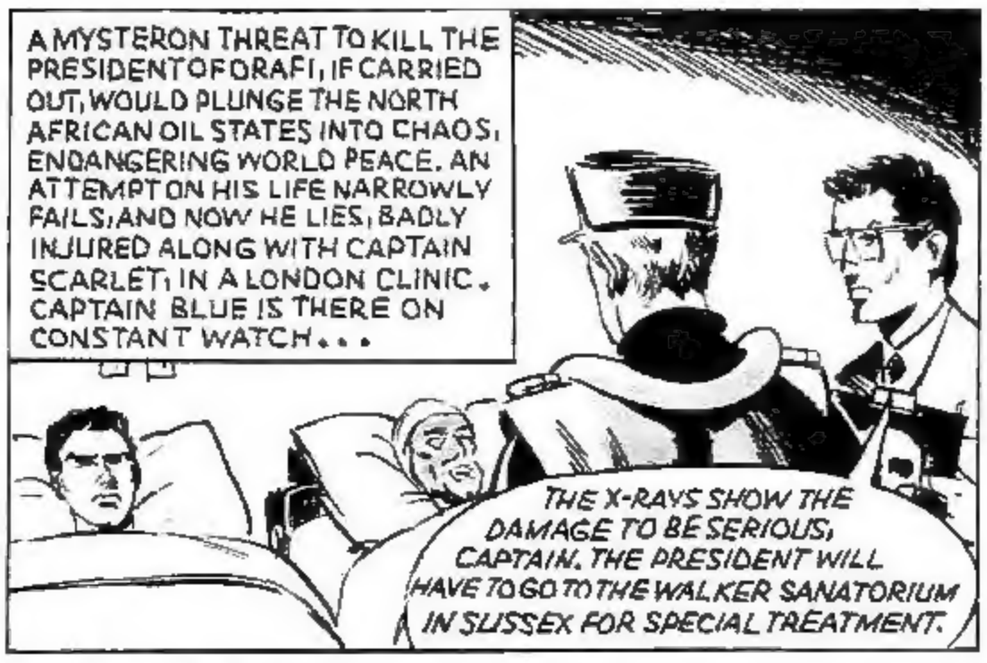
The winged creatures, only four feet tall and more like hairy apes than men, appeared to idle the time away eating or sleeping, bathing in a river, or flitting over the rooftops of their crude dwellings, surrounded by lofty mountains and volcanoes.

Of course, it was all a hoax . . . which boosted *The Sun*'s circulation enormously before it was exposed as the work of the astute editor, Richard Adams Locke.

One man who was not deceived was the author Edgar Allan Poe, who was writing a magazine story about a trip to the Moon—and abandoned it when he found he could not think up anything as fantastic as Mr. Locke's Lunarians.

An 1867 photograph of Sir John Herschel, the astronomer who was supposed to have observed winged men on the Moon. We know today that earth-based telescopes cannot see objects on the lunar surface smaller than one-half mile in diameter, owing to the blurring effect of the earth's atmosphere.

CAPTAIN SCARLET



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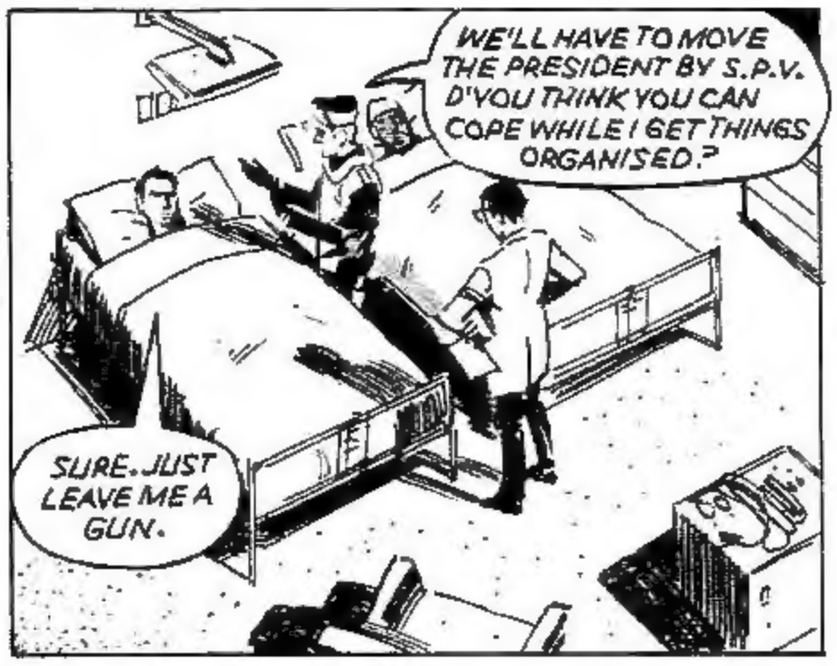

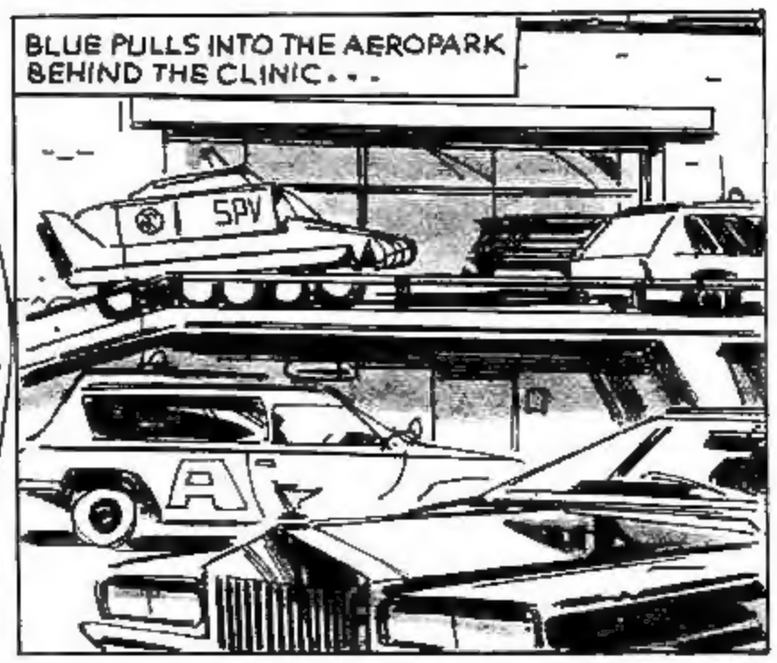

ART: JOHN COOPER

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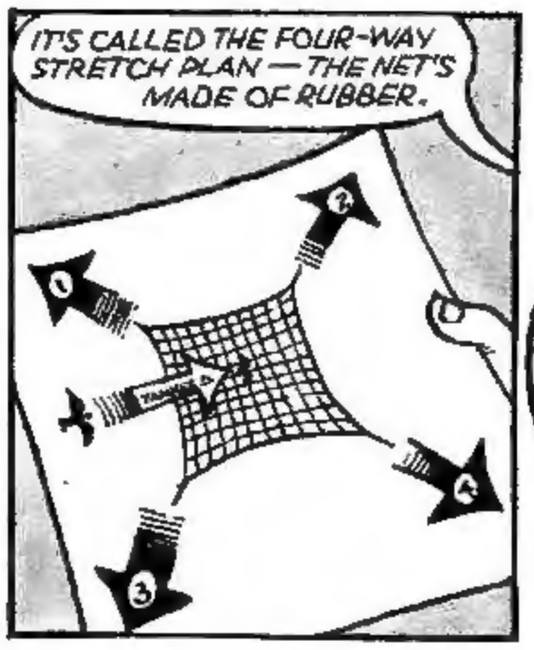
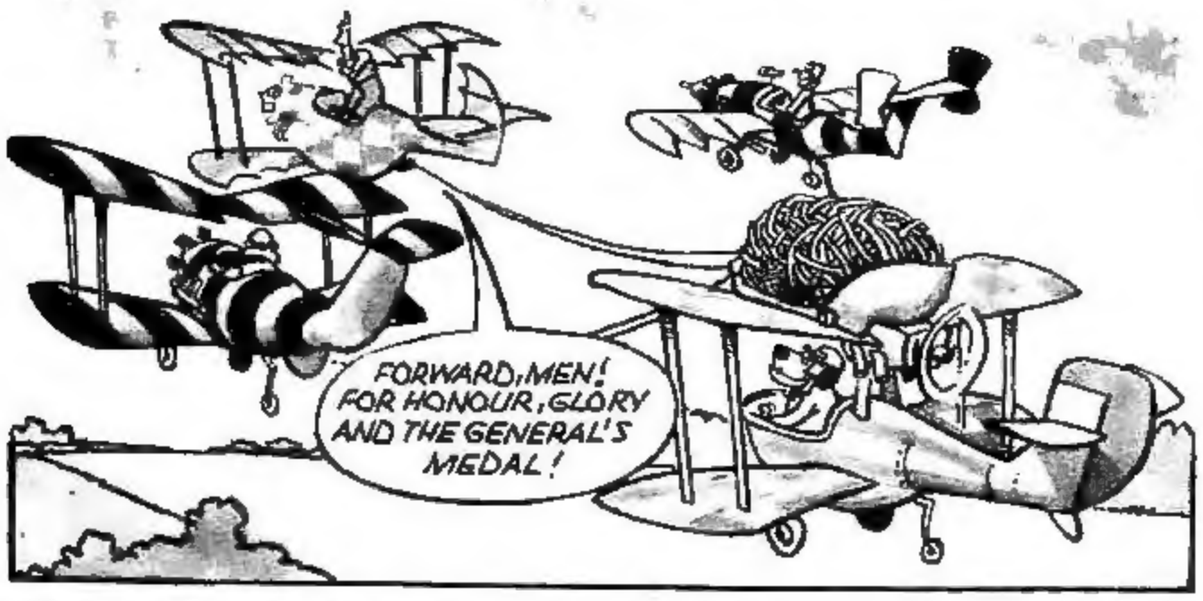
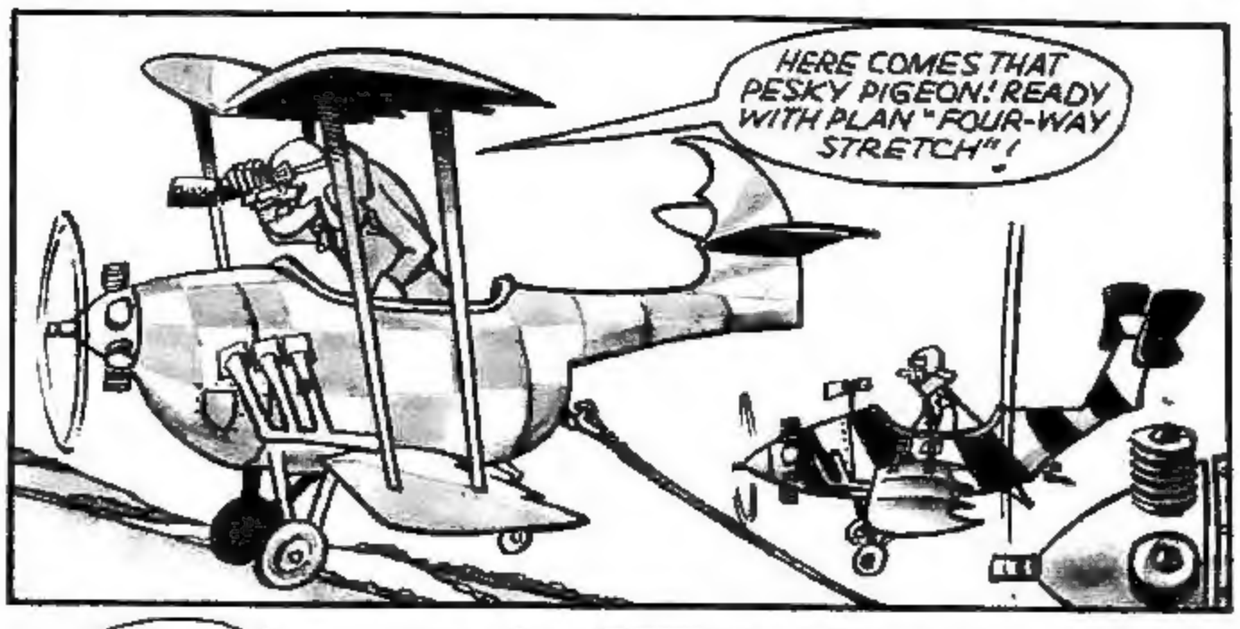
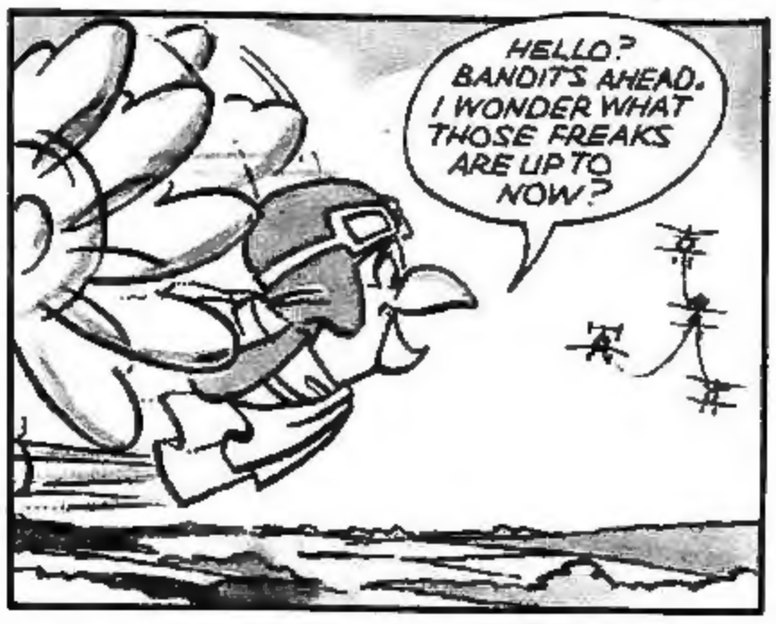
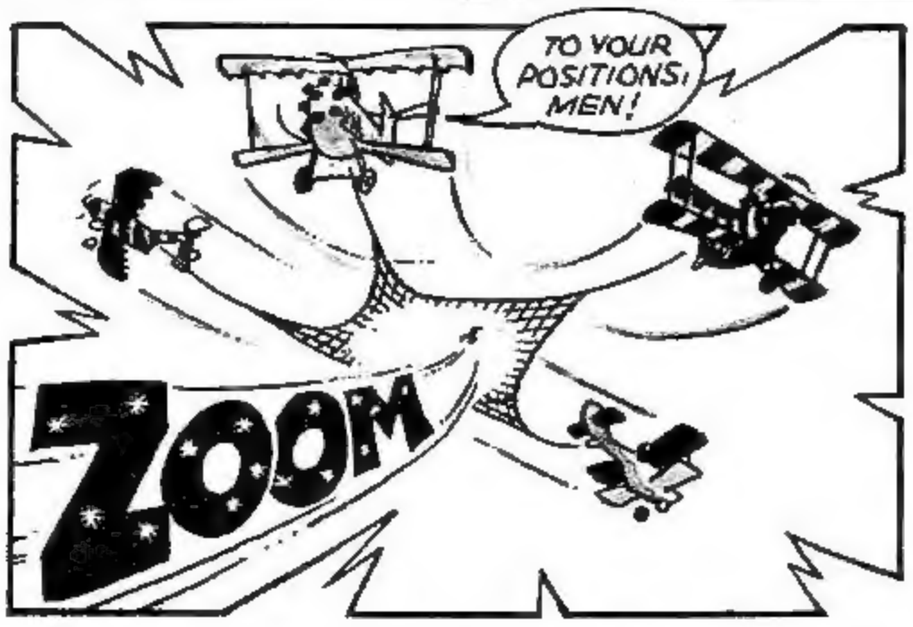
DASTARDLY AND MUTTLEY

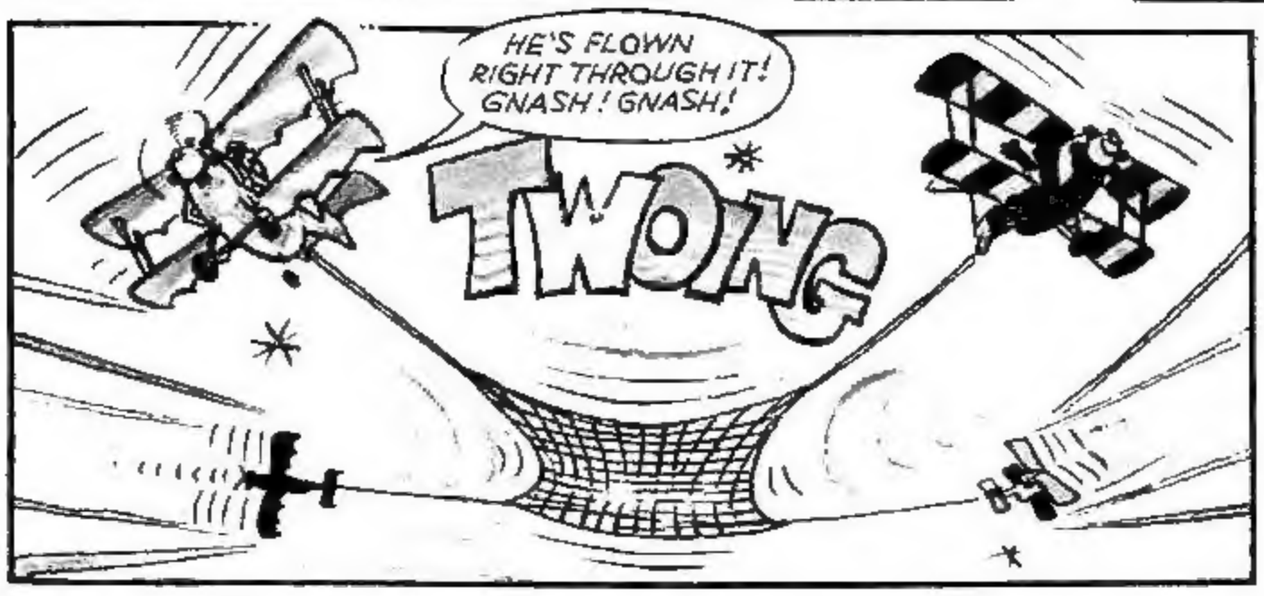


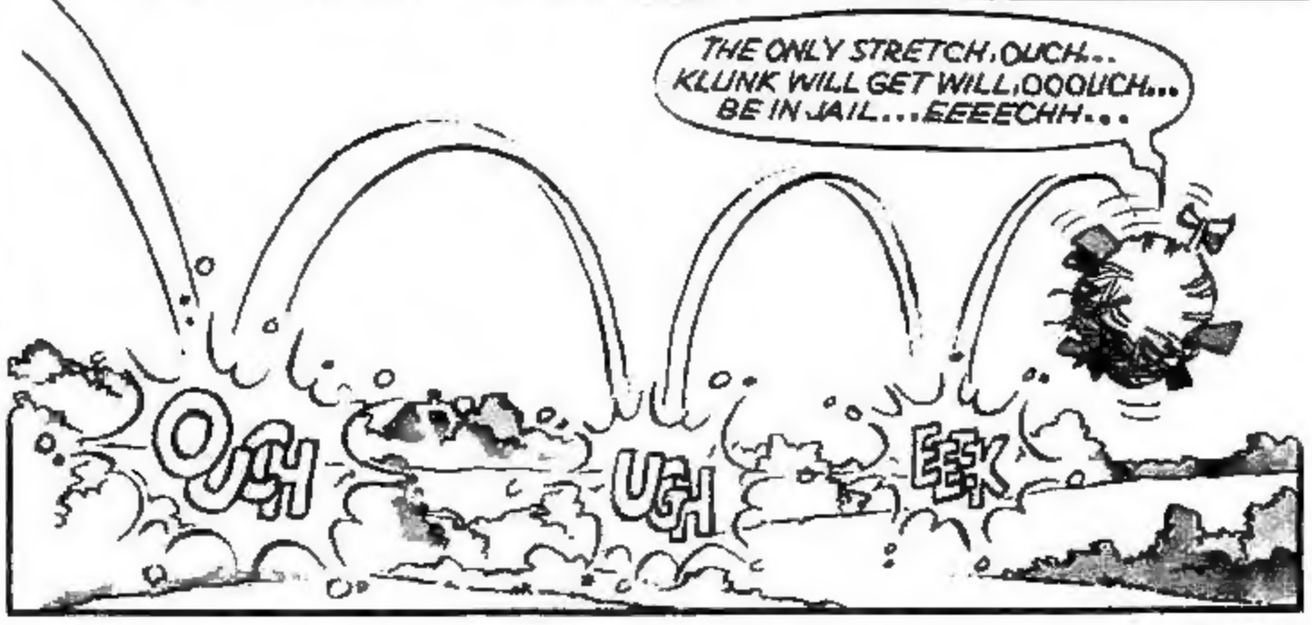












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ART: GERRY HAYLOCK

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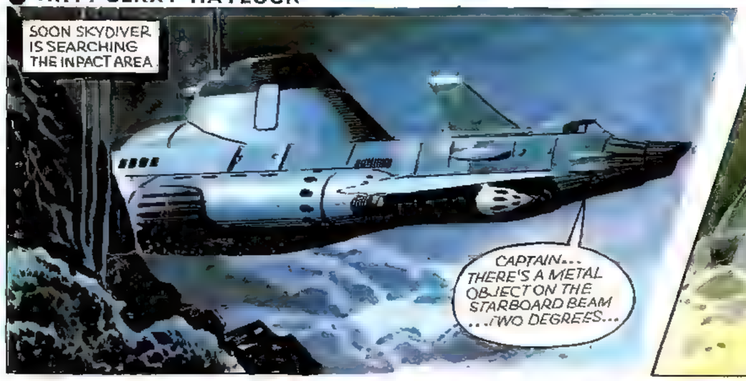
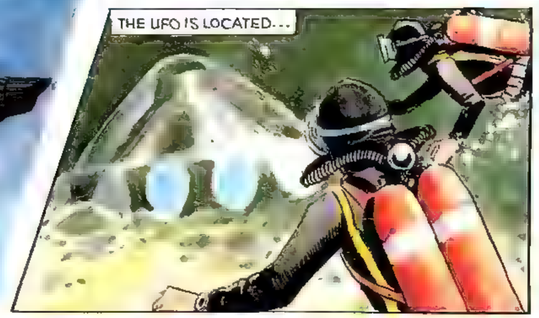
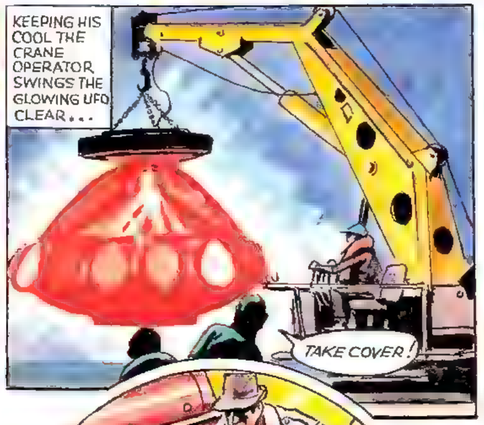
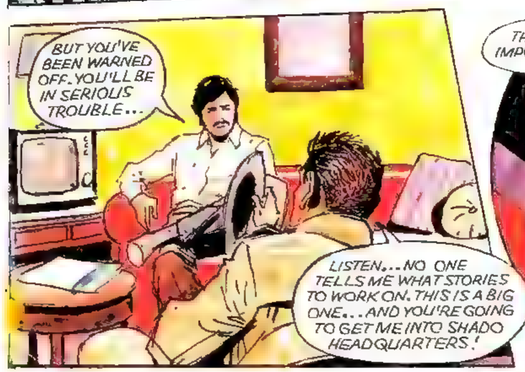
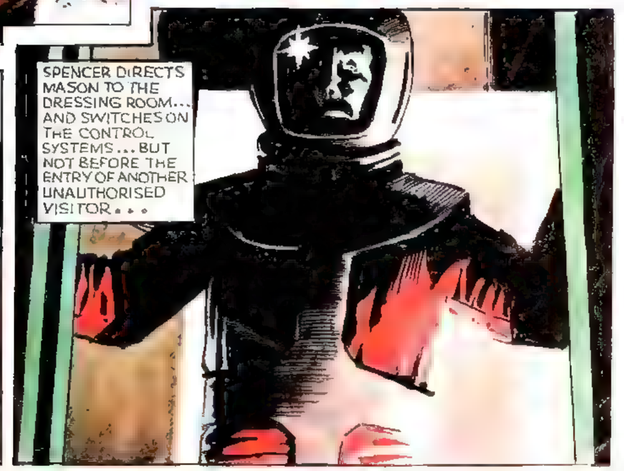










● **Left:** *Two Gemini astronauts are strapped into the close confines of their spacecraft and await the lift-off of their 108-foot high Titan 2 booster.*

So you want to be an Astronaut?

● by our space correspondent

BASIC training for an astronaut continues with different simulators. The docking trainer simulates rendezvous and docking with another orbiting object. It is housed in a cavernous building something like an aircraft hangar. A spacecraft and its docking target are suspended from the roof by a mechanism that allows them to float freely in all directions.

The astronaut, with precision instruments to guide him, closes in on his target and gently manoeuvres his spacecraft into the other vehicle's docking collar. But with both vehicles capable of moving in every direction at the slightest touch, it's hideously difficult. Probably more difficult than the real thing.

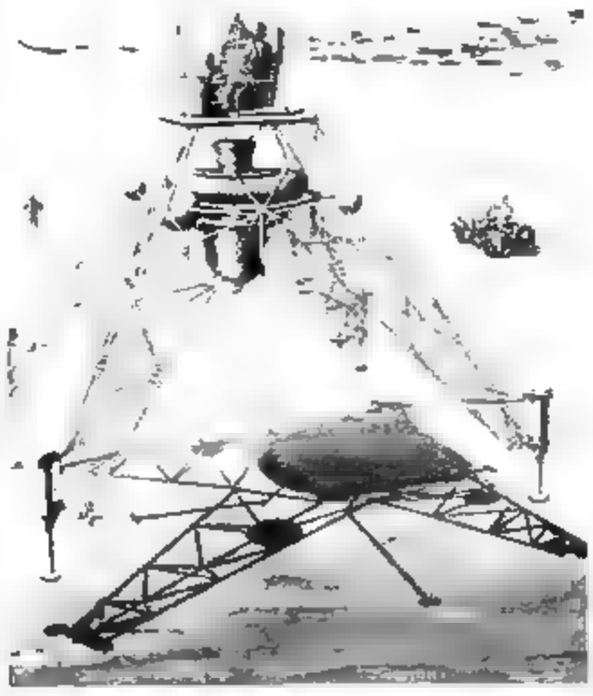
One docking instructor always tells his pupils: "Come on, lads, if you learn to dock here, you can do anything in space".

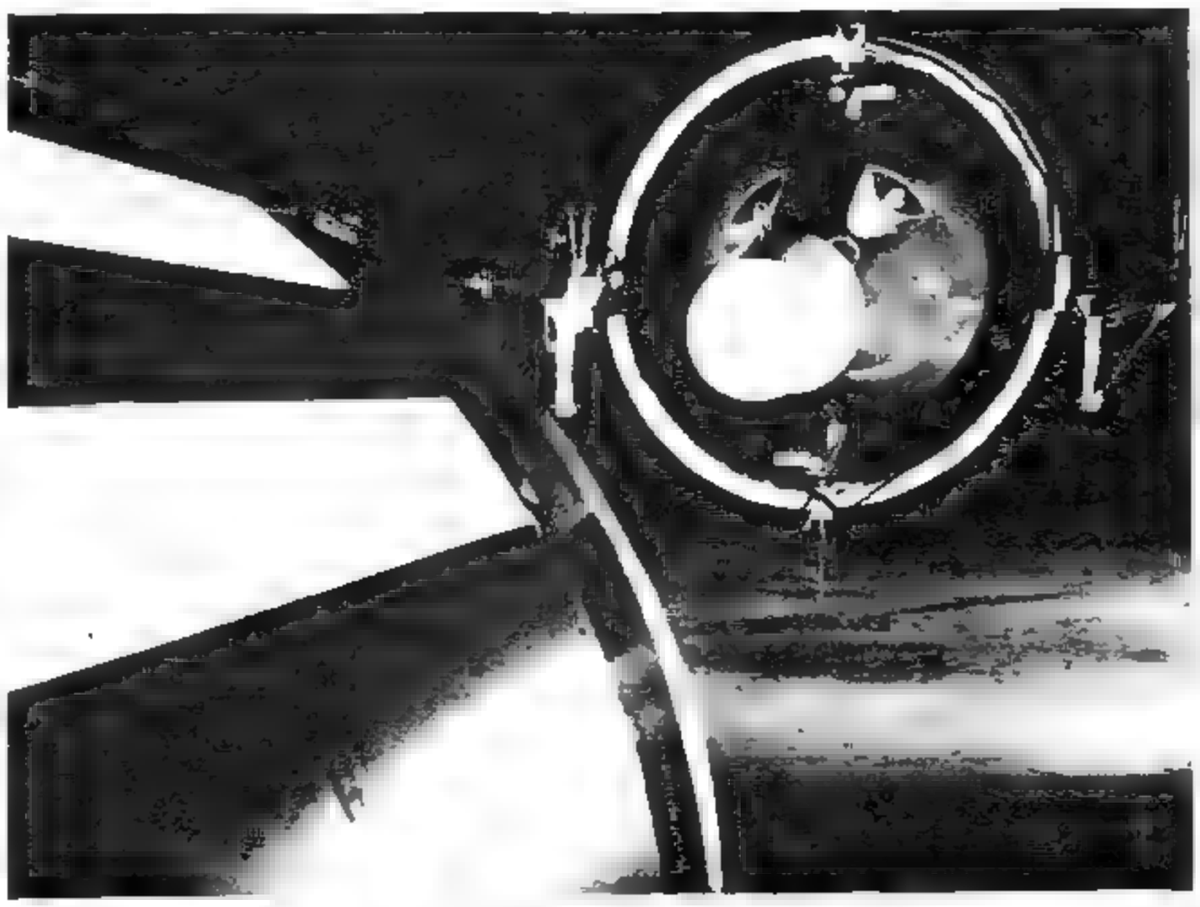
All astronauts make a continuous study of spacecraft and launch vehicles. They make frequent visits to the factories where the "hardware" is built and most of them become first-rate engineers. When new designs come up for inspection, they often make useful suggestions.

About half-way through their basic training, astronauts start to specialise. One becomes an expert on spacecraft tracking, another on life support systems, a third on computers, and so on. In this way, by the time a spaceflight comes round, the astronauts not flying are able to take up operational duties as specialists among the ground support crew.

The final phase of the astronaut's training comes when he is assigned to a space mission. This means another spell of intense practice on the mission simulators.

● **Right:** *Artist's impression of the Lunar Landing Research Vehicle ("flying bedstead"), a training machine used to simulate lunar gravity. The thrust from the jet engine counteracts five-sixths of the vehicle's weight so that the LLRV settles at a rate equal to that of a lunar landing craft.*





● **Above:** *The orbital docking simulator at the U.S. Space Agency's Langley Research Centre, Hampton, Virginia. A Gemini capsule is suspended so as to move in any direction while attempting to link up with the target vehicle in the foreground.*

For Gemini astronauts this period lasted four months. For Apollo it's six months. Eight million pounds worth of equipment is involved, to duplicate on the ground every detail of the moon mission except weightlessness.

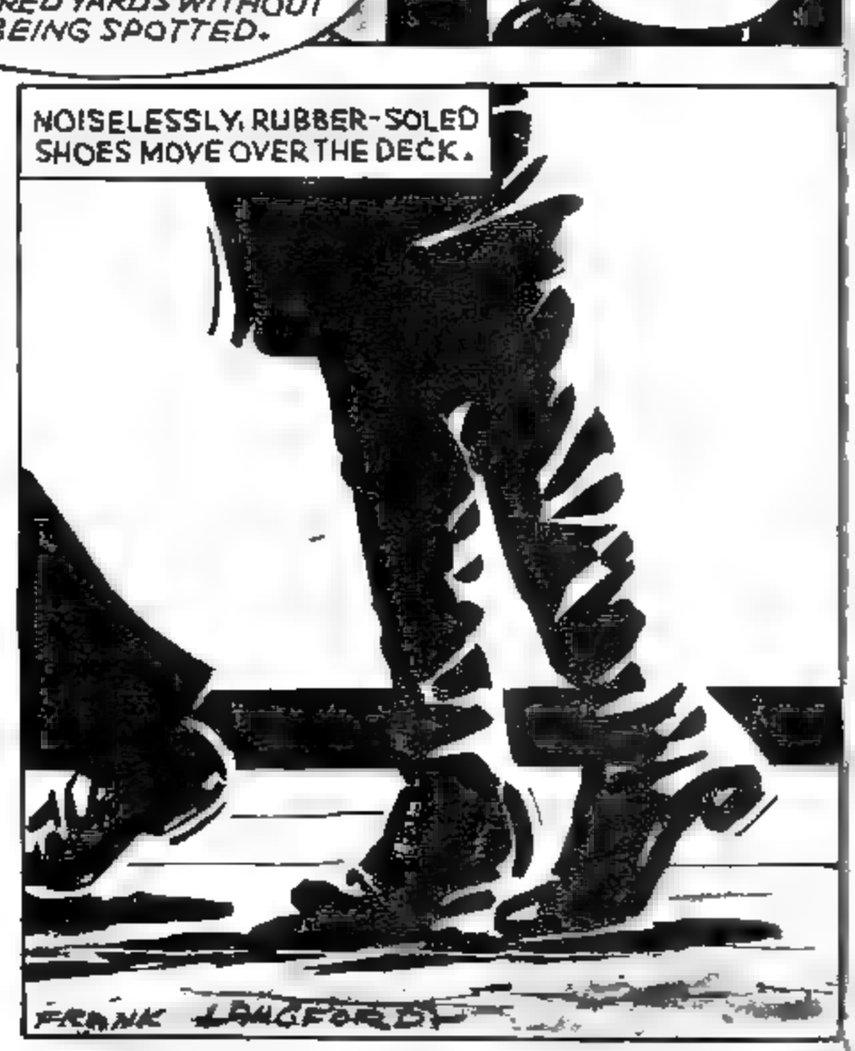
Before a real mission, an exact rehearsal is "flown" in the simulator. Every detail of the dummy run is fed into computers, so that snags can be ironed out before the astronauts really blast off. It is so realistic that the first men to go to the moon felt that they had done it all before.

In the final stages of their training the moon astronauts practise landing in a "flying bedstead", a clumsy-looking machine that duplicates the one-sixth gravity conditions of the lunar surface. Less exciting are the many hours they spend inside their real spacecraft on the launch pad, checking and rechecking that everything will be all right on the day.

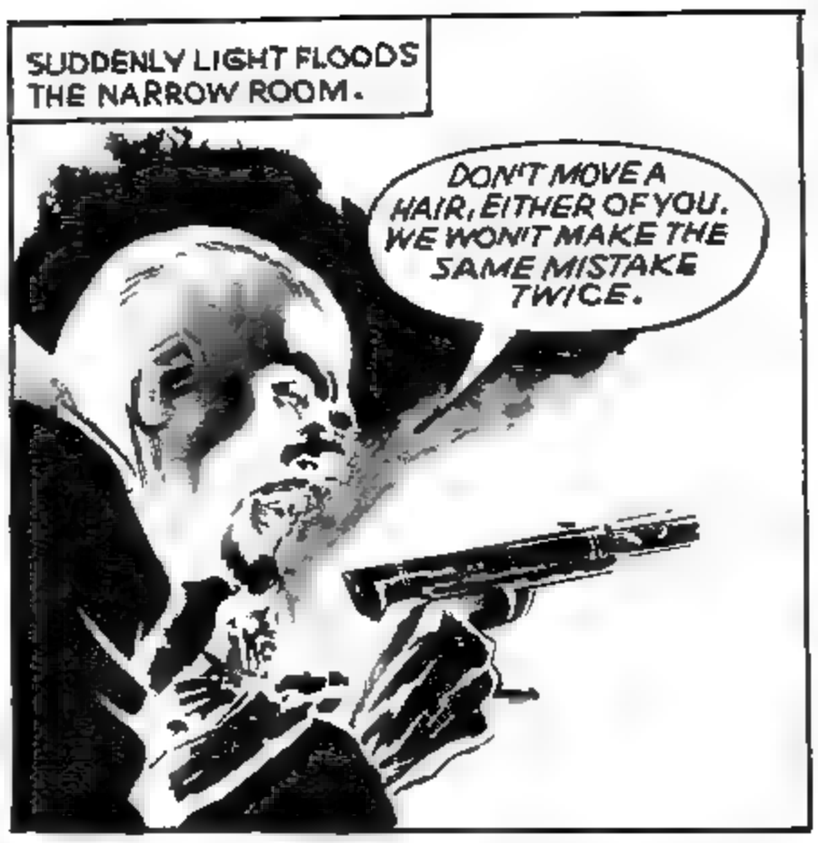
When that launch day comes, the long years of training will show. The spacecraft will be in the hands of highly competent men—astronauts capable of meeting any emergency.

Next week: the cybernetic anthropomorphous machine.

CONTINUED FROM PAGE 20



GAINING EASY ENTRY TO THE MAIN CABIN, THE TWO INTRUDERS LOCATE THE SAFE...


SUDDENLY LIGHT FLOODS THE NARROW ROOM.
DON'T MOVE A HAIR, EITHER OF YOU. WE WON'T MAKE THE SAME MISTAKE TWICE.

GET THE CAR! THESE TWO MUST BE SHIPPED OUT TONIGHT. WE'LL TAKE THEM TO THE EMBASSY FIRST.
YES, COLONEL.

AND SOON...
WELL DONE, COMRADE COLONEL... THE DOCTOR HERE WILL GIVE THEM SOMETHING TO HELP THEM SLEEP ON THEIR JOURNEY.
GOOD, I HAVE LAID ON THE TRANSPORT TO LIVERPOOL. THE SHIP IS WAITING.

MINUTES LATER...
COMRADES, COME QUICKLY...

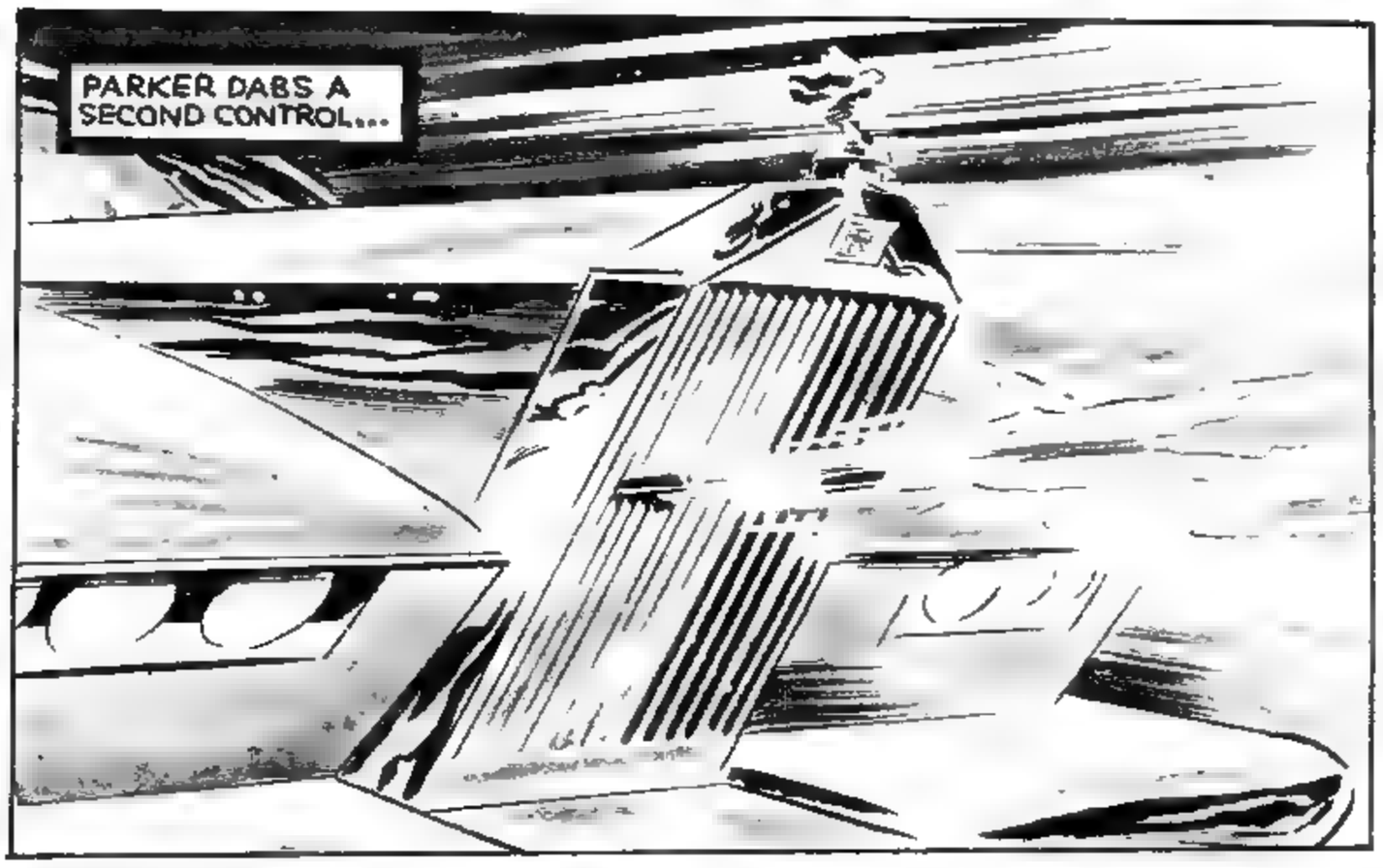
AND...
JUST BRILLIANT MAKE-UP, COLONEL.

AND BY USING PROMINENT PERSONALTIES LIKE LADY PENELOPE CREIGHTON-WARD, THEY THOUGHT TO CONFUSE US.

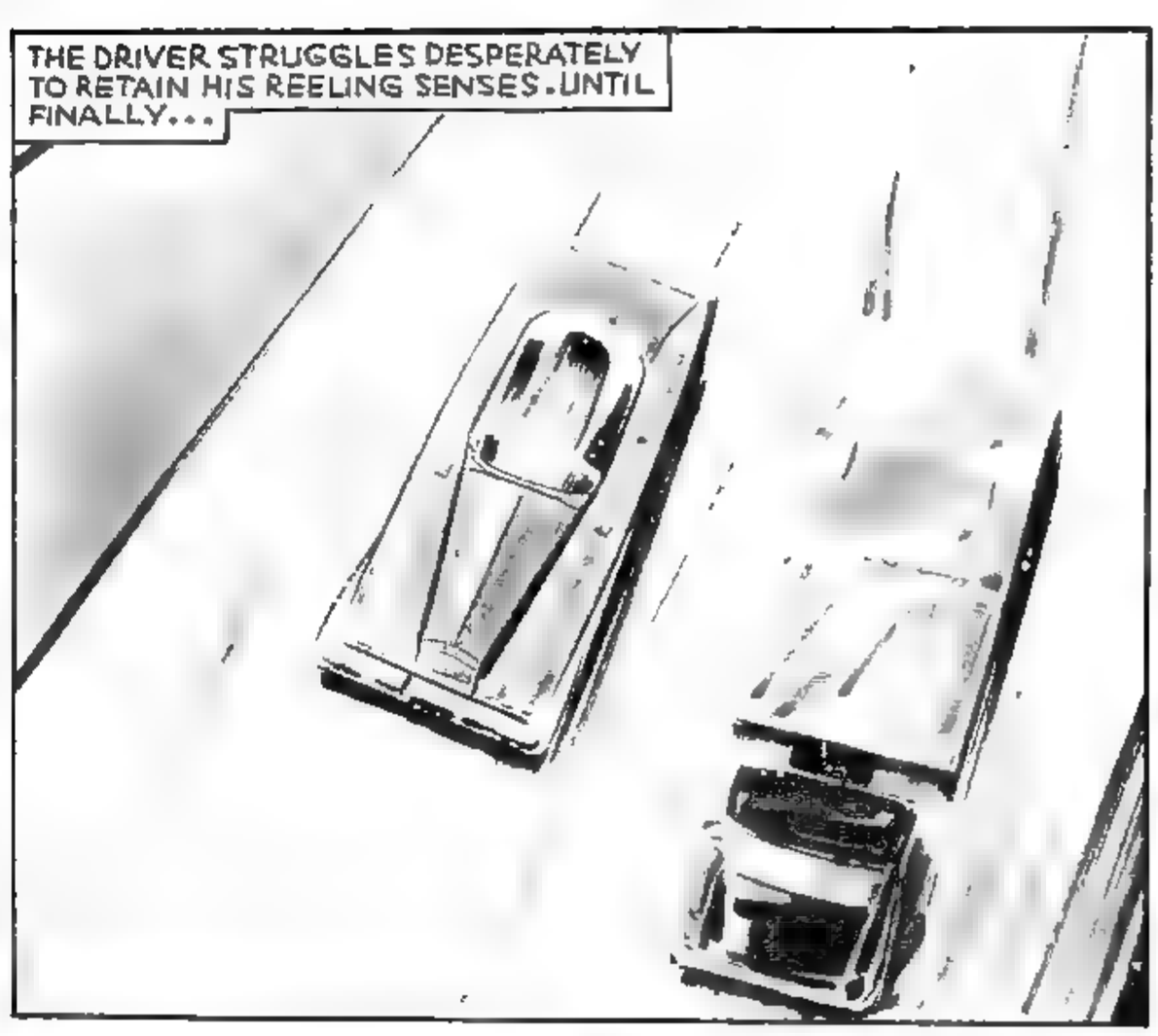
SOON AFTER TWO LARGE CRATES ARE TAKEN FROM THE EMBASSY AND LOADED ONTO A VAN...
YOU STOP FOR NO ONE, UNTIL THOSE CRATES ARE ABOARD THE S.S. SORANSURA.
I UNDERSTAND, COMRADE.

THE VAN LEAVES...BUT NOT FAR BEHIND...
SHALL I TAKE ACTION YET, M'LADY?
THERE'S A VERY STRAIGHT SECTION HALF A MILE ON, PARKER, THAT WOULD BE BEST.

ROUNDING THE NEXT BEND, PARKER DEPRESSES A SMALL BUTTON AND...
THE GAS SHELLS, M'LADY?
I THINK SO, PARKER.

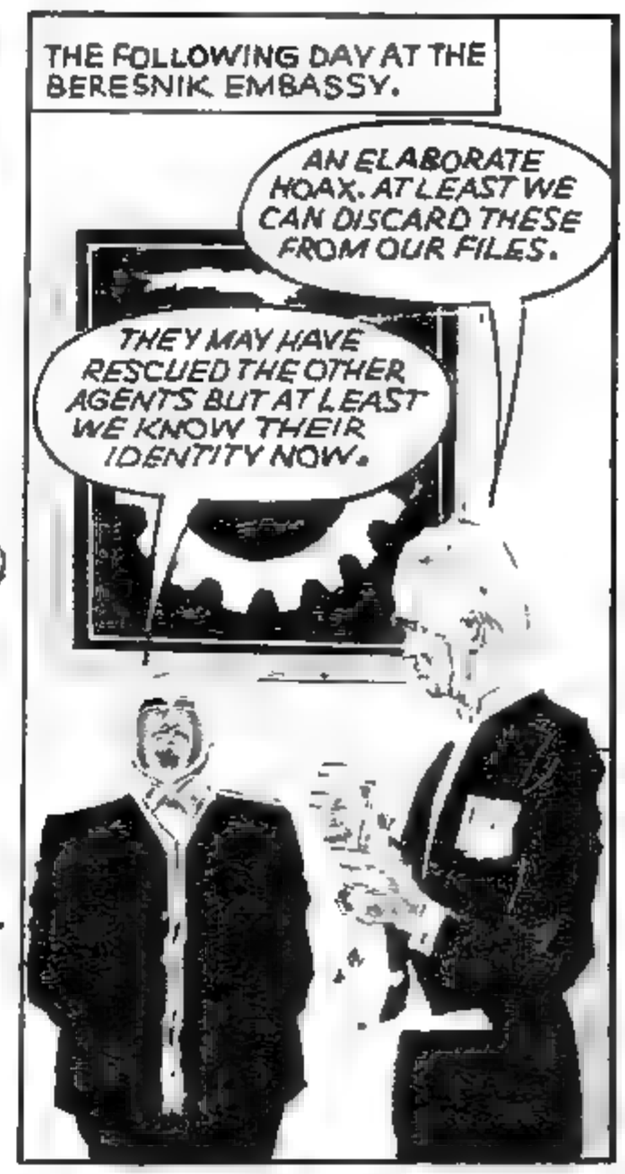

PARKER DABS A SECOND CONTROL...

THE MISSILES FIND THEIR TARGET.
GAS!


THE DRIVER STRUGGLES DESPERATELY TO RETAIN HIS REELING SENSES. UNTIL FINALLY...

YET ANOTHER CONTROL IS THROWN AND...

WELL DONE, PARKER.
THANK YOU, M'LADY.

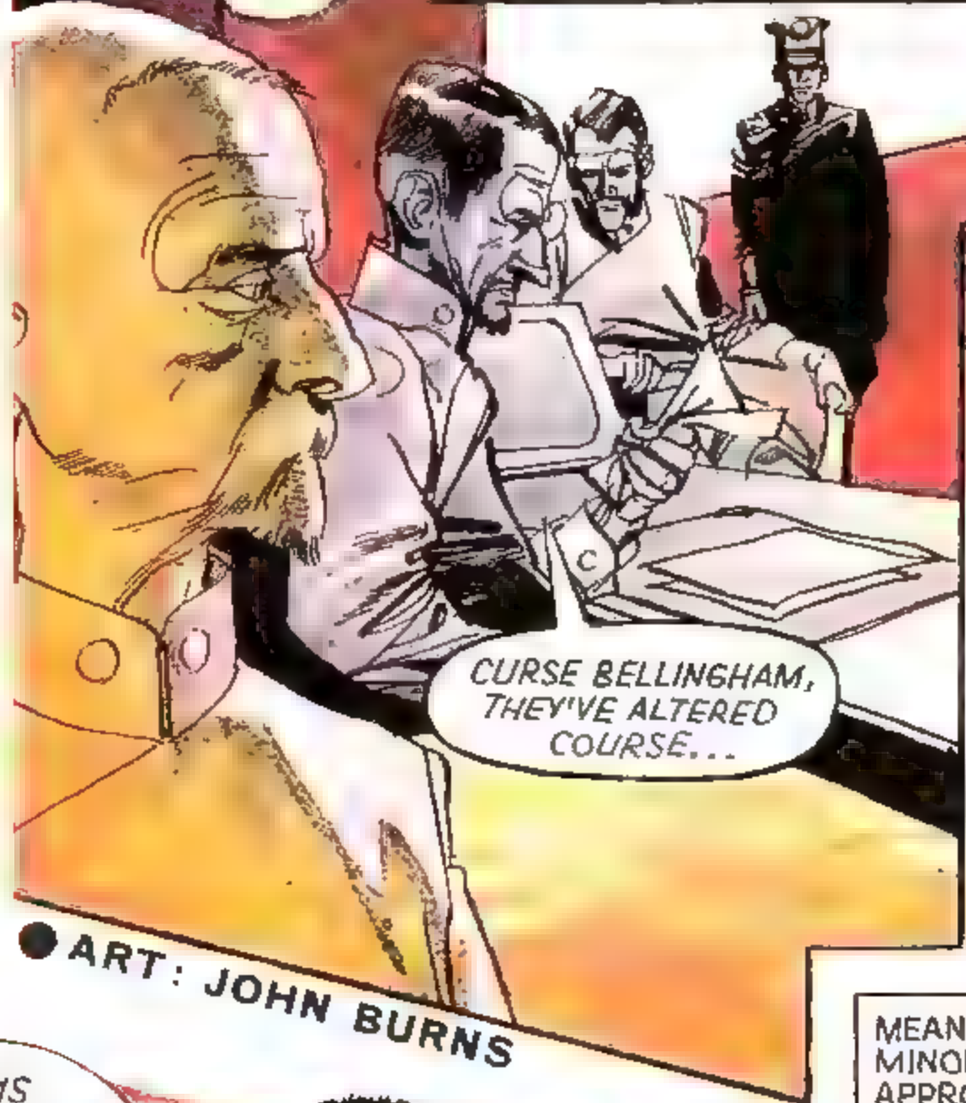

THE FOLLOWING DAY AT THE BERESNIK EMBASSY.
AN ELABORATE HOAX. AT LEAST WE CAN DISCARD THESE FROM OUR FILES.
THEY MAY HAVE RESCUED THE OTHER AGENTS BUT AT LEAST WE KNOW THEIR IDENTITY NOW.

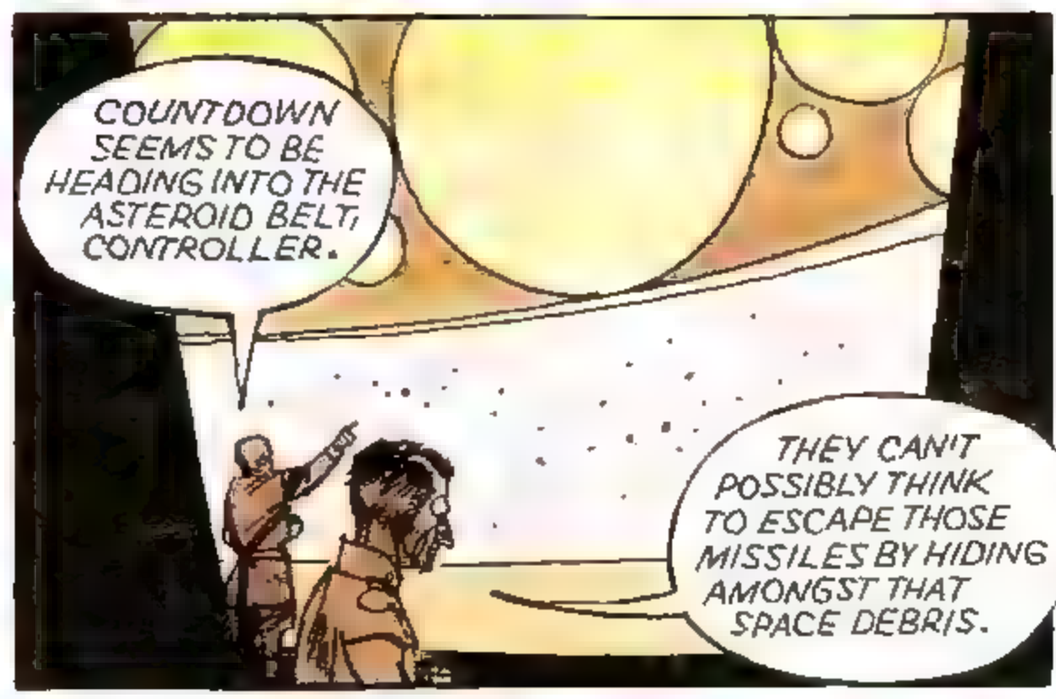
IT WAS AN EXCELLENT DISGUISE. SO GOOD IT FOOLED BOTH OF US.
LADY PENELOPE CREIGHTON-WARD, COMRADE AMBASSADOR.

MY DEAR LADY PENELOPE, HOW NICE OF YOU TO FORGIVE ME AND ACCEPT MY INVITATION.
WELL, I MUST ADMIT I FOUND YOUR BEHAVIOUR RATHER UNUSUAL, MR. AMBASSADOR.
CONGRATULATIONS, PENNY. I THINK YOUR LITTLE SCHEME HAS WORKED.

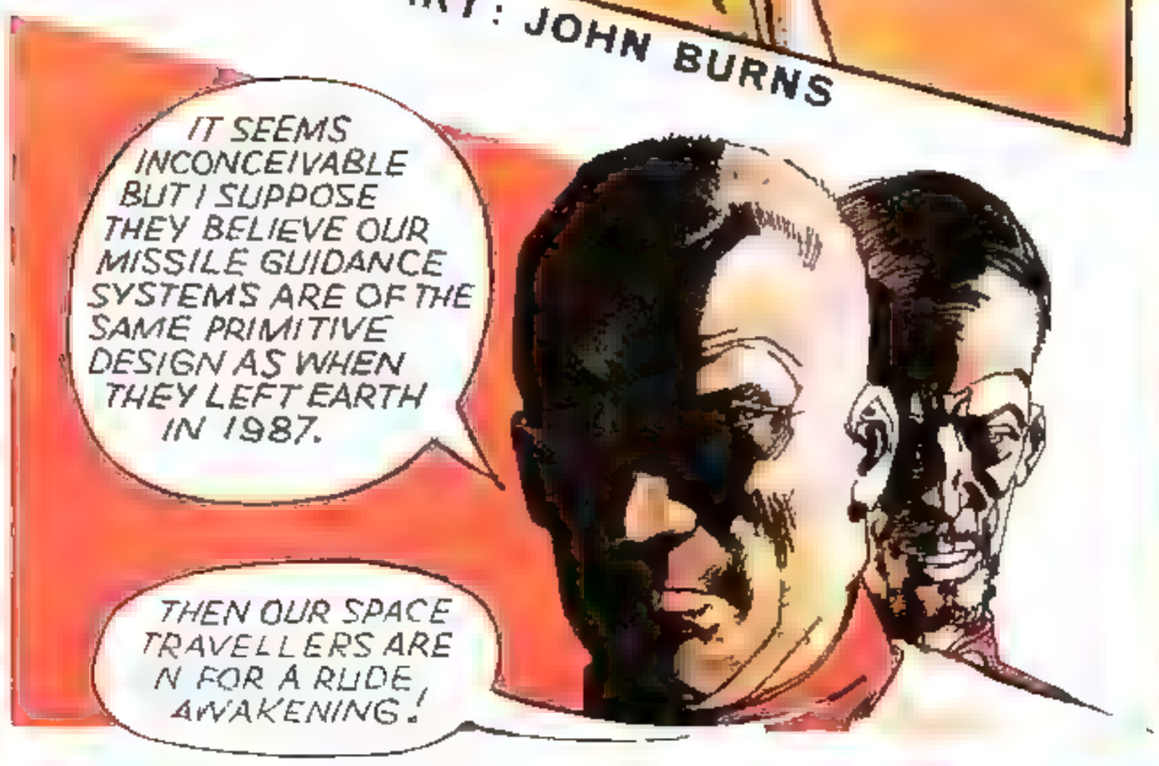
COUNTDOWN

The starship is doomed unless it can escape the holocaust from the Earth's missile bombardment. After a fifty-year voyage of space exploration, Countdown faces a hostile world. Gone is the peaceful planet they left in 1987. Ruled by the despotic Controller and his sinister 'Company', Earth has even now annexed the lunar colonies and arrested Lunar Controller Bellingham, who warned the star travellers of their impending destruction. Earth Controller Costra keeps a keen interest in developments.





● ART: JOHN BURNS



SPACECRAFT DESIGNS FROM THE MGM FILM 2001: A SPACE ODYSSEY

LONG MINUTES PASS UNTIL JUST SECONDS FROM DEADLINE BELLA MAKES A REPORT

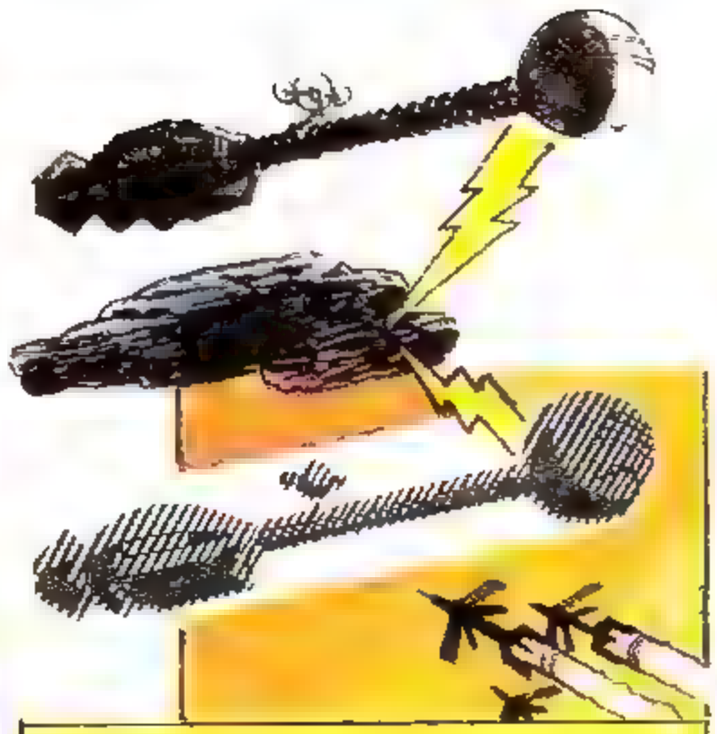
ALL RIGHT, MARC, I THINK WE'VE DONE IT.

GREAT WORK. I'LL BE RIGHT OVER.

AND SO BELLA AND BILL SHOW OFF THEIR BRAIN CHILD...

IF WE HAVE DONE OUR COMPUTATIONS CORRECTLY, THIS MACHINE WILL ACCOMODATE OUR NEEDS.

MIND YOU, THERE'S A VERY NARROW SAFETY FACTOR.



Each missile sent from Earth has been programmed with Countdown's specifications. Thus, blindly they seek and destroy the nearest object to the description in their memory banks. Based on this assumption, a small but powerful transmitter is to be established on the surface of the asteroid which will project a three-dimensional image of the starship in its exact proportions.

SOON AFTER A SMALL SHUTTLE LEAVES THE STAR SHIP.

MISSILE IMPACT IN ONE HOUR, SEVENTEEN MINUTES.

O.K. MARC...

THE SHUTTLE SETTLES ON THE CRAGGY SURFACE.

NEAR ZERO-GRAVITY POSES NO WEIGHT PROBLEMS BUT OTHERS DO OCCUR.

FIRE THE STABILISERS, SHE'S GOING OVER.

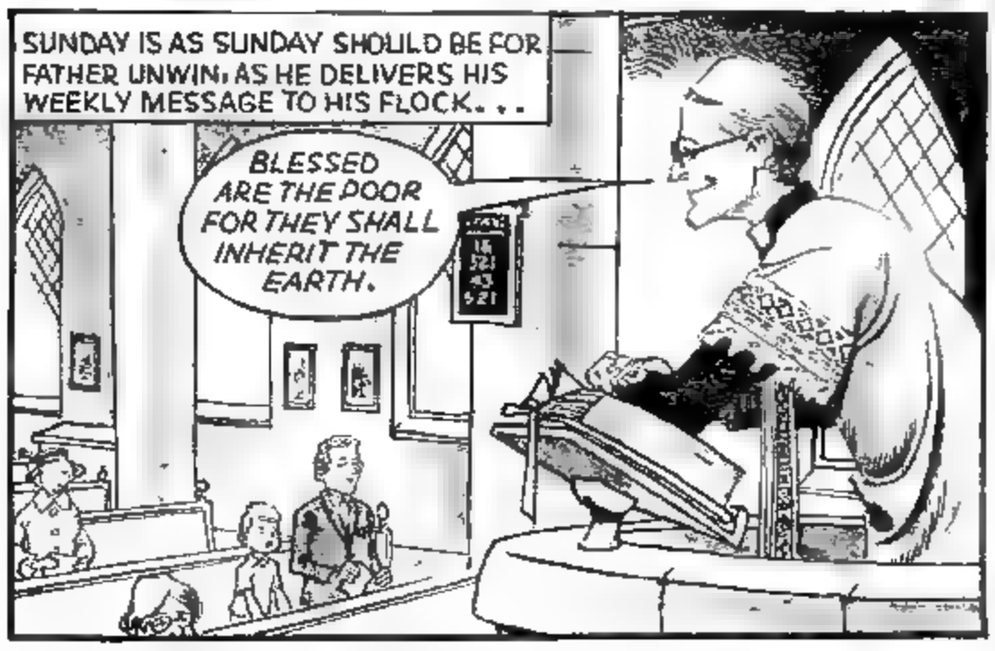
FOUR SMALL HARPOONS PLUNGE INTO THE SPONGY ROCK.

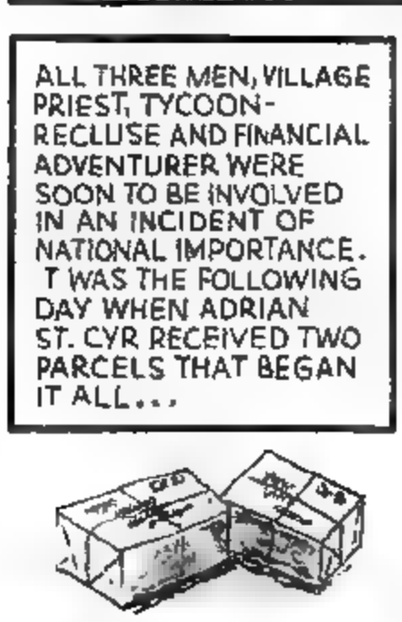
THIS IS GOING TO TAKE LONGER THAN WE THOUGHT, MARC. THE GRAVITY IS VIRTUALLY NON-EXISTENT.

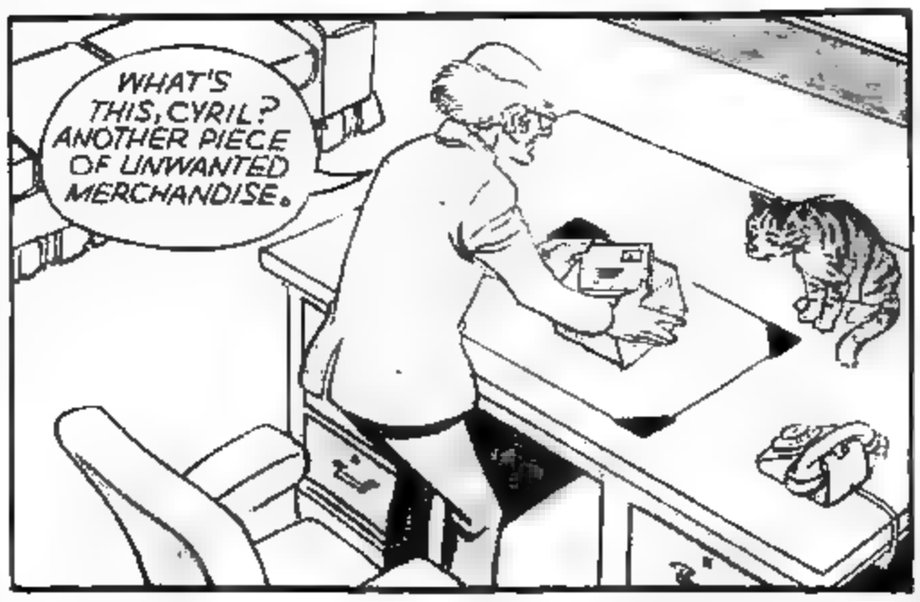
ANCHOR THAT STATION WELL...OUR LIVES DEPEND ON IT.

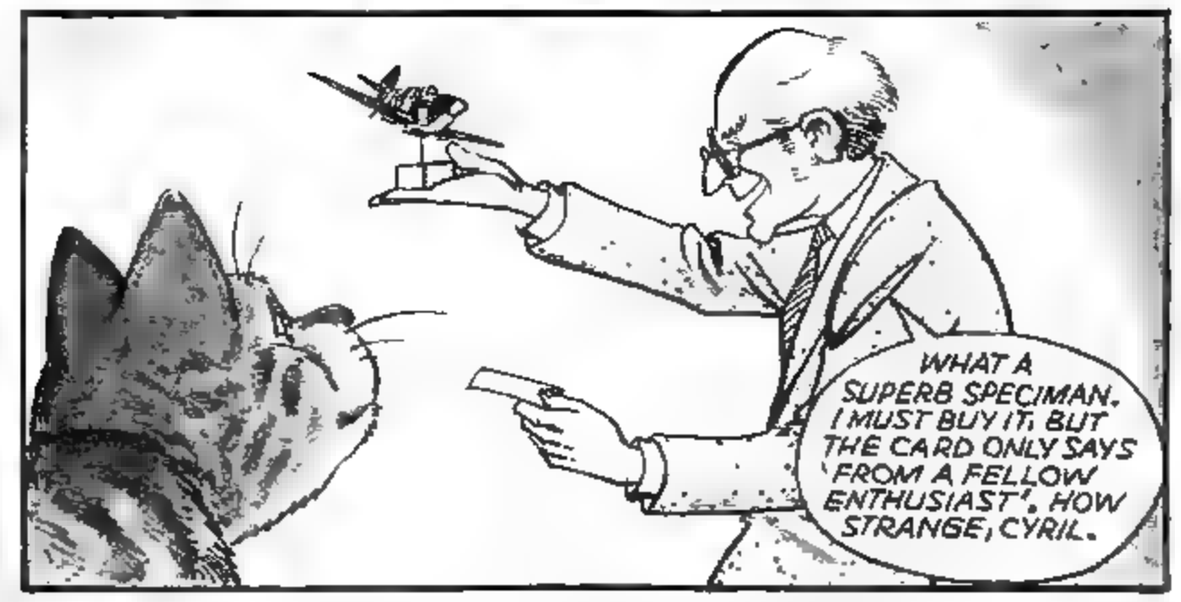
THE TWO MEN WORK CAREFULLY IN THE DIFFICULT CONDITIONS. ALL IS GOING LIKE CLOCKWORK UNTIL GRANT SCUFFS HIS BOOT ON THE UNEVEN TERRAIN...

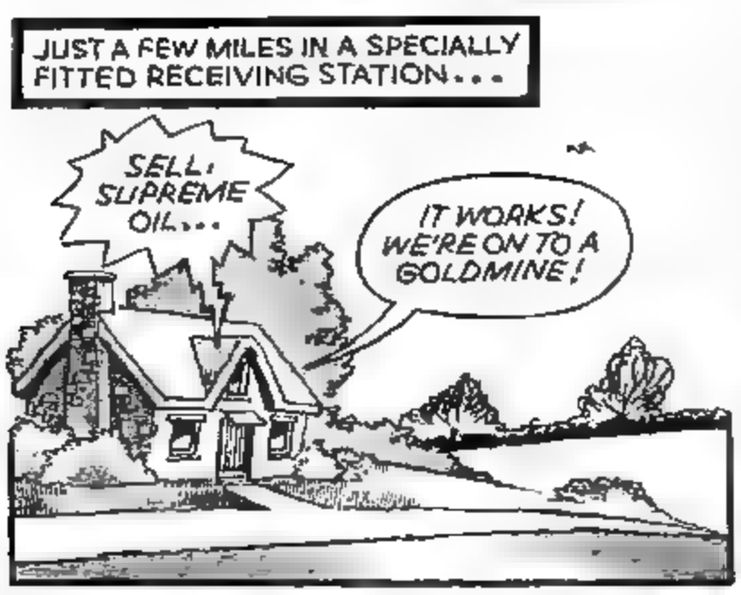
THE SECRET SERVICE

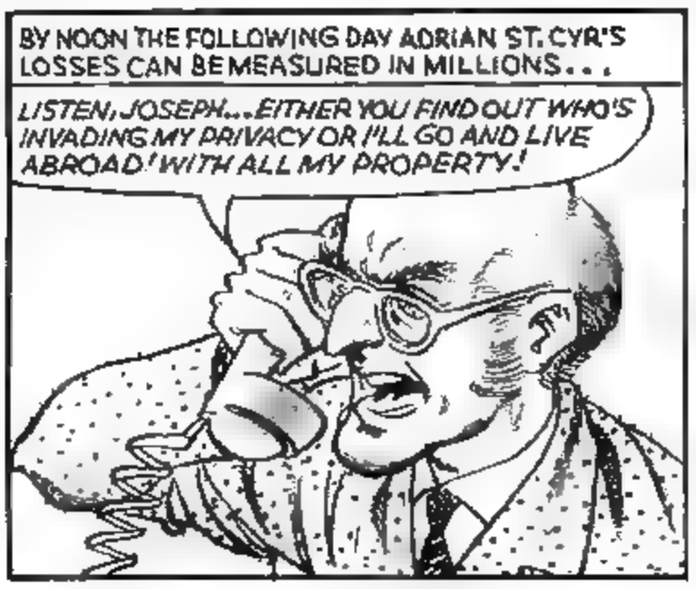


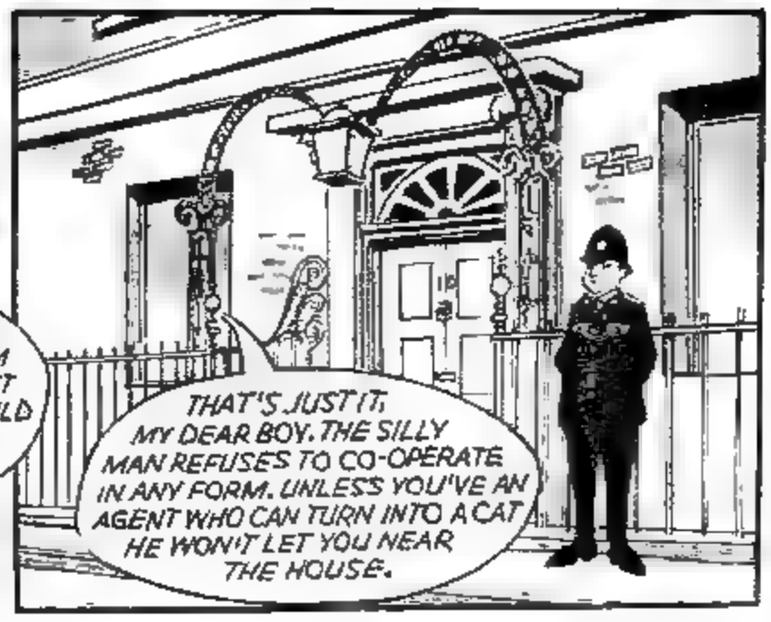












THINK TANK!

ADDRESS YOUR LETTERS TO:
Think Tank, Countdown
Polystyle Publications
382-386 Edgware Road
London W2

New aerial for earth station

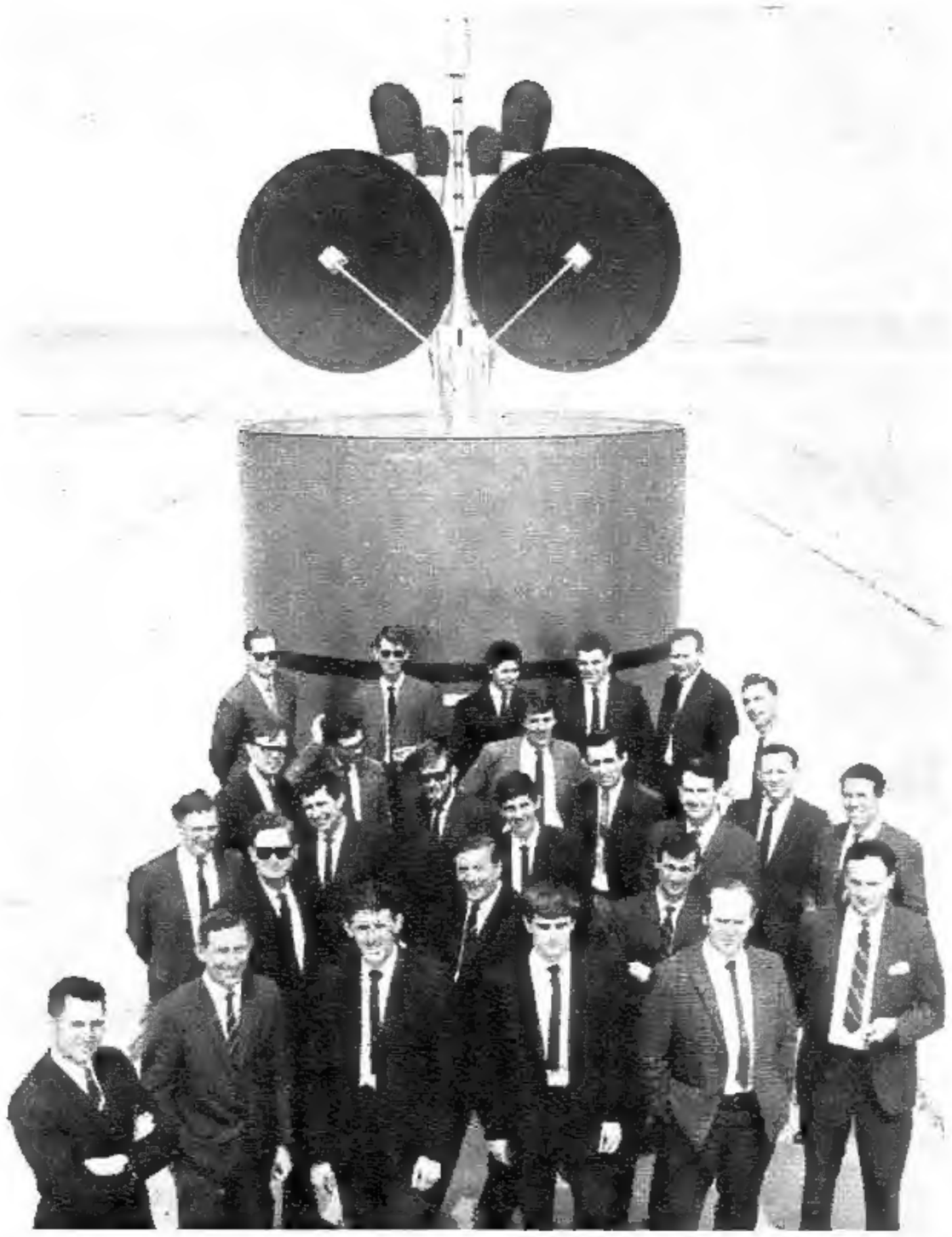
ARTIST'S impression of the new third aerial for the communications satellite earth station at Goonhilly Downs, Cornwall. The 97-foot aluminium reflecting dish will be finished in early 1972. It will give instant communication with 25 countries via the new Intelsat 4 satellites.

The giant aerial beams outgoing telephone and television signals to the satellite 22,300 miles away. The signals must be aimed accurately to find their target. Intelsat 4 picks up the signal, increases the strength, and beams it back to other earth stations in North America, Europe and North Africa. At any earth station, transmission and reception are simultaneous but the signals do not clash because different radio frequencies are used.

The Team Thing

A team of British Aircraft Corporation technicians stand before a full-scale model of the huge Intelsat 4 communications satellite. The BAC team represent just one of the ten nations working on eight of the 1,500-pound satellites for the Communications Satellite Corporation.

Countdown is looking for more examples of teamwork. Do you have a neighbourhood project, a science club or other school project? Perhaps your specialty is archaeology, boat building, weather forecasting, skin diving, science experiments or mountain climbing. Whatever it is, write and tell us about it: Countdown will publish stories about the most interesting group projects. Here's your chance for national publicity!



OOOOOOOOOOOO

STRANGE DISCOVERY IN APOLLO SOIL

An American biologist has discovered a material in lunar rocks which kills bacteria.

Dr. Gerald Taylor of the Manned Spacecraft Centre, Houston, was trying to revive any organisms that might be living in moon dust by mixing samples with a protein. The resulting extract was found to contain a toxic agent which killed a test bacteria called pseudomonas aeruginosa.

Other discoveries were announced at the second annual Lunar Science Conference in Houston, Texas.

Scientists at the University of Newcastle have found traces of iron oxide in moon samples returned by Apollo astronauts.

Houston scientists have found unusual pieces of rock in the soil samples from the Ocean of Storms. The strange fragments are not like other moon rocks and are similar to granite. They are richer in phosphorous, potassium and "rare earth" elements than other moon rocks.

Scientists believe they are chunks of the moon's hard crust from below the crater Copernicus. They were thrown out when the crater was formed and landed on the Apollo 12 site, millions of years ago.

Each week on this page I'll print letters, news items and pictures. Write in with your questions on any subject, scientific or mechanical. Readers who send in the best questions will receive an answer in Think Tank plus £1.

Robin Hilborn, Assistant Editor

Q *Where do asteroids come from?*
Alan Myers
Welling, Kent

A The asteroids may be the remains of a planet which had an orbit between Mars and Jupiter but which was destroyed long ago for unknown reasons. Another theory is that they are the leftovers from the formation of the solar system—pieces of rock that never gathered together to form a full-sized planet.

There are thousands of asteroids, ranging in size from 429 miles in diameter down to mere pebbles. Most of them circle the sun as part of the main swarm, between the orbits of Mars and Jupiter. A few, like Eros, Hermes and Icarus, have elliptical orbits which bring them closer to the sun, passing within a few million miles of Earth (though a collision is highly unlikely).

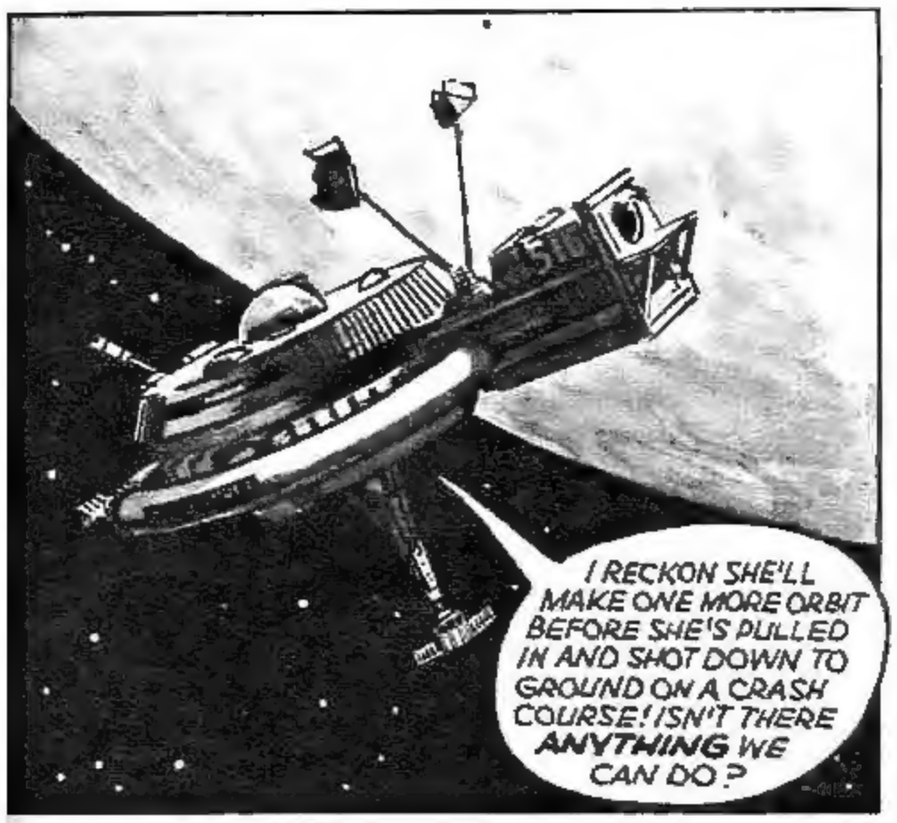
The gravitational pull of even the largest asteroid is very low, so that if you jumped off the surface you would escape completely and go floating off into space. For the same reason, no asteroid has an atmosphere, because the molecules of a gas move fast enough to escape from the surface.

An egg by any other name . . .

Vegetarians in India will now be able to eat eggs for breakfast. The Vegetarian Association has decided that an egg is a vegetable.

Call them by any name you like, but you still won't be able to dig up eggs like potatoes.

THUNDER BIRDS



CONTINUES NEXT WEEK

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SHADO DATA

ED BISHOP (Alias Ed Straker)

Ed (short for Edward) Bishop is an American from New York who studied drama in London after winning a Fulbright Scholarship, and has lived in England ever since. His West End stage career began as an understudy and small-part actor in "Bye Bye Birdie", followed by "Little Mary Sunshine", "Look Homeward Angel" and then the Broadway production of "The Rehearsal" and "Man and Superman" in Boston (and, later, in London). Returning to England in 1964, he settled down in London and has spent most of his time in television and TV films, with his feature movie debut in "The Warlover".

His stage work has included the role of John Kennedy in Joan Littlewood's production of "Macbiro" and the Bristol Old Vic production of "And People All Around".

He has appeared in "The Saint" (five times), "The Baron", "Court Martial", "Man in a Suitcase" and many other series, and in the "Doppelganger" film. He is now star of the ATV series UFO.